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KiDS

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NATIONAL GEOGRAPHIC KiDS

Hello!

Get your snorkels at the ready as we dive beneath the waves this issue! First up, learn how three beautiful ocean animals were rescued by humans after getting tangled up in plastic. We also check out some brill new pollution solutions and find out about some easy ways we can all help clean up our seas. Hooray!

Turn to page 20 to discover some seriously special sea creatures that survive without swimming! Then test your new ocean knowledge in our bumper crossword on p53. We've got a funny fish craft for you to try, too! You're in for a splashing time!

Editor, Tim

FREE this issue...

4 POSTERS!

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INSIDE SCOOP

The latest news from around the globe...

Robo fish!

Researchers at **Cornell University** in the **USA** have made a **robotic lionfish** powered by '**blood**'! The fishy droid's design is based on the **biology of humans** and **birds**, and uses a special **battery** that pumps **energy-packed liquid** through **vein-like tubes** in the bot's body. The battery fluid – which takes up **less space** and is **lighter** than traditional batteries – powers the so-*fish*-ticated robot and also makes its fins move. The **45-cm-long** bot (right) can swim for up to **36 hours** on **one charge**, and the team behind it hope their energy system will be used to power **robots of the future**. Hey, any-*fin* is possible!

Could this super swimmer change the way robots are powered?

Run for your life!

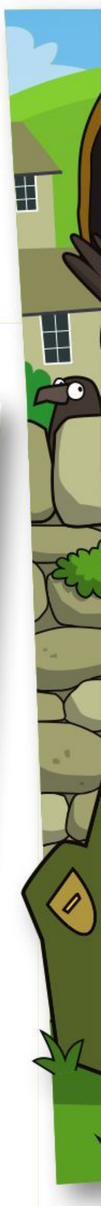
GET INVOLVED!

Over 1.8 million kids from 8,890 schools around the world have joined The Daily Mile!

Did you know that **running every day** is good for your health – and **brain**?! Well, talk to your teach and ask them to sign your school up to **The Daily Mile**! The fun scheme, which was launched in **2012**, gets **kids to run or jog for 15 minutes with their class every day**.

Researchers have found that exercise makes children feel **healthier** and **fitter**, and even helps them **concentrate** better in class. So get your trainers on and leg it over to **thedailymile.co.uk** to take part.

Fish: James Pikul / University of Pennsylvania. Illustration © Marek Jagucki. All other pictures © Getty Images UK.



3 FAST FACTS! BUMBLEBEES

Summer is the perfect time for seeing bumblebees. Find out more about these buzzing little beauties…

1 There are around **250 species** of bumblebees found all **over the world**. They evolved in the **Himalayas** around **35 million years ago**. All have six legs, four wings, big eyes, two **antennae** and a tongue that varies in length depending on the species.

2 Unlike **honeybees**, who live in colonies of up to 50,000, most bumblebees make **simple nests** underground, or in thick grass or trees, with **50-400** other bees. And they only make a **bit** of **honey**. Some, called **cuckoo bumblebees**, take over other bees' nests!

3 Bumblebees are **very important** because they **pollinate** lots of different **crops** and wild **plants** as they fly between flowers feeding. Head to **bloomsforbees.co.uk** to find out how to attract more of the furry fliers to your garden, and for **ID guides**. You can even take part in a **survey** to work out which flowers are the bees' fave!

There are 25 species of bumblebees in the UK!

Eye know you'll give me what I want!

Puppy dog peepers!

How cute is this canine?!

When it comes to being adorable, **dogs**, it seems, are *paw*-fectly designed to melt our hearts. **Dr Juliane Kaminski,** a **psychologist** at the **University of Portsmouth**, says our furry friends have **evolved** a **special muscle** in their **foreheads** for making their famous '**puppy dog eyes**' – a muscle that is **missing** from their ancestors, **wolves**.

The muscle means pooches can **lift their inner eyebrows**, which makes their peepers look **larger** and **sadder** – an expression that wolves *can't* pull off. Juliane is unsure whether dogs evolved this way because **people preferred pups who looked cute**, but whatever the reason,we know we'll love doggies *fur*-ever!

Stormy surprise!

Meteorologists in **San Diego**, **USA**, got a shock in June when they spotted a mysterious **shadow** on their radar, measuring **128km wide** and **128km in length**. At first the weather scientists thought it was an unexpected **rain shower**, but they soon discovered it was a gigantic swarm of **ladybirds** flying **1,500m** above the city! Most of the bugs were flying together in a giant **16-km-wide cloud** – but onlookers said they looked like strange little specks as they flew towards **Mexico**.

Ladybird gatherings, known as '**blooms**', aren't that unusual, but the spotty red bugs don't usually move about in such massive groups. *Spot*-tacular!

Bugs galore!

Kettlewell Scarecrow Festival

AUGUST 10

Every August, **scarecrows** of all shapes and sizes 'come to life' at the annual **Kettlewell Scarecrow Festival** in **North Yorkshire**. The fun week-long event started back in **1994** as a fundraiser for a local school, which led to over **100 scarecrows** appearing in **gardens**, open spaces, and even on **rooftops**!

Now in its 25th year, **thousands of visitors** head to **Kettlewell** each summer to search for the **crazy straw-filled figures** displayed around the village. Past scarecrows have included a huge **elephant**, **Minions**, a **caveman** and his **woolly mammoth**, and **Poseidon**, **Greek god of the sea** – complete with two diving **dolphins**. Sounds *straw*-some!

CRAZY EVENT

MAKE IT A DATE

What's going on this month?

AUGUST 2-26

Edinburgh Festival Fringe

Scotland's funny festival with over 5,000 performances!

AUGUST 9

Day of Indigenous Peoples

Time to celebrate the world's oldest cultures and traditions.

AUGUST 13

Left-Handers Day

About 10% of the population are 'lefties'. Are you one, too?

AUGUST 24-26

Notting Hill Carnival

Europe's biggest street party takes place in West London!

AUGUST 26

Summer Bank Holiday

Yay! It's time for fun in the sun!

WACKY WORLD!

Check out the planet's strangest pictures...

Sci-fi circus!

A **circus** in **Germany** has come up with an animal-friendly way to bring creatures back into the ring – they're all **holograms**! The hi-tech experts at **Circus Roncalli** use **11 special projectors** to beam spectacular holographic images of animals into the arena, including **horses**, **fish** and this enormous **3-D elephant**. How cool is that?

Bake dancer!

Check out **Maximiliano Mieres**' crazy pizza-tossing skills! The **breakdancing chef** won the '**Freestyle Acrobatics**' category at the recent **Pizza Latin American Championships** in **Buenos Aires**, **Argentina**. Also crowned Argentina's **Best Pizza Maker**, Maxi will now represent his country at the **2020 Pizza World Cup**. "It's the dream of every pizza maker!" he says. Who knew?!

Icky exhibits

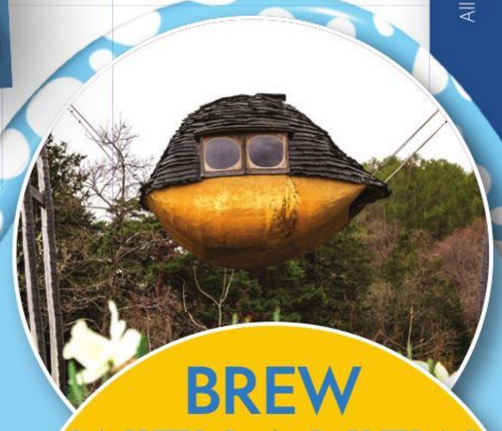
Thousands of visitors skipped to the loo at the **Unko Museum** in **Yokohama**, **Japan**, recently, to learn about **poop**. The potty pop-up **poo museum** was littered with plop-themed attractions. Hi-*loo*-rious!

KING OF FLOWERS

This snap was taken on **Garland Day** in **Castleton**, **Derbyshire** in May. The **Garland King** (right), was covered in **flowers** and led on **horseback** through the village. Hope he didn't have hayfever!

MUTANT MECHANICS!

All aboard the **Turvy Topsy** bus! Designers **Steve Braithwaite** and **Tom Brown**, aka the **Mutant Brothers**, welded two **US school buses** together. Bonkers!



BREW WITH A VIEW

Fancy having a cuppa at this **tea house** in **Suwa**, **Japan**? Designed by **Terunobu Fujimori**, the **Flying Mud Boat** is a quirky **acorn-shaped** building that dangles in the air.

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WHAT'S UP?

Films and books to get excited about this month...

ENTER ALL COMPS ON PAGE 55!

Dora and the Lost City of Gold

While her explorer parents are off on a mission to find a lost city, **Dora** is sent on her most dangerous adventure ever – **High School**! But before long, she finds herself leading **Boots the monkey** and a bunch of new pals on a **jungle expedition** to save her parents and solve the impossible mystery behind the **Lost City of Gold!**

● **In cinemas 16 August**

WIN! We've got a bumper **Dora** goody bag up for grabs!

Q Dora speaks Spanish. What's the Spanish word for grandma?

a) Abuela **b)** Ebola
c) Abdulla

Dora the Explorer (right) is now a teen!

Playmobil: The Movie

It's Playmobil as you've never seen it before!

When **Charlie** disappears into the magical world of **Playmobil**, his big sister **Marla** heads off on an **epic quest** to **rescue him.**

This swashbuckling adventure is perfect for **younger viewers**, as Marla's journey takes us through a **dizzying collection** of kooky **animated locations.**

Seeing such a barmy mix of characters on screen together is pretty satisfying – there's a **Viking**, a **robot**, a ***T. rex*** and a dashing **super-spy** played by **Daniel Radcliffe!** It's fun and breezy. Just don't expect anything too deep!

● **Out in cinemas 9 August**

WIN! **Three** lucky winners will scoop a bundle of **Playmobil goodies.**

Q Where were Playmobil toys invented?

a) Denmark **b)** Germany
c) India

Uglydolls

The town of **Uglyville** is a place where being **weird** is okay, **strangeness** is special and **beauty** is much more than skin deep. **Moxy** and her **Uglydoll** friends live there happily, welcoming new arrivals with open arms.

When free-spirited Moxy sets off to explore the world **beyond her town** with her best pals, they discover a place called **Perfection** where '**perfect**' dolls are trained to be toys in the real world. But these pretty dolls are **mean** to Moxy's wonky crew, and the friends learn quickly that you *don't* have to be perfect to be amazing.

● **In cinemas 16 August**

The Uglydolls are ready for adventure!

WIN! **One** star-prize winner will win an ***Uglydolls*** **goody bag** and ***Uglydolls*** **toys**! Two runners-up will scoop the **goody bags**.

Q Which real-life pop star plays Moxy the Uglydoll ?

a) Kelly Clarkson
b) Jeremy Clarkson
c) Theresa May

The Angry Birds Movi

The flightless **Angry Birds** and the scheming **green piggies** might have to put their never-ending beef behind them and **work together** when a **mysterious purple bird** threatens to **freeze** *both* of their islands! How long will the truce last?!

● **In cinemas 2 August**

WIN! **Five** winners will scoop ***Angry Birds 2*** **goody bags**, each containing a **game**, a **mixed Plush Toy bundle** and a **Talking Red Plush Toy**!

Q Before it became a movie and a cartoon, what was ***Angry Birds***?

a) Range of toys **b)** Type of sweets **c)** Smartphone game

It's the spin-off special this month – all the films are based on TV shows, games and toys!

KEY: Show | Movie | DVD | App | Book | TV

STAR CHAT

DANIEL RADCLIFFE

NG KiDS' Alex meets superstar Daniel Radcliffe!

Hi Daniel! In the movie, you voice the handsome super-spy Rex Dasher. How close is Rex to the real-life you?

Very very far, I'd say! I could never be that **cool** in a million years. I'm being very much **out-cooled** by this plastic version of me!

Haha! The movie's full of heroics but who are YOUR heroes?

Feels obvious to say, but my **parents**! And then there are a lot of **actors** I look up to, some of whom I was lucky enough to work with, like **Gary Oldman** who played **Sirius Black** in the ***Harry Potter*** films.

Playmobil: The Movie **is all about embracing adventure. If you could go on an adventure to any place in any time, where would you go?**

I feel very lucky to be alive **now**! I'm gonna stay in the modern world and have adventures here! I would love to go to **Japan** on my own and travel around there.

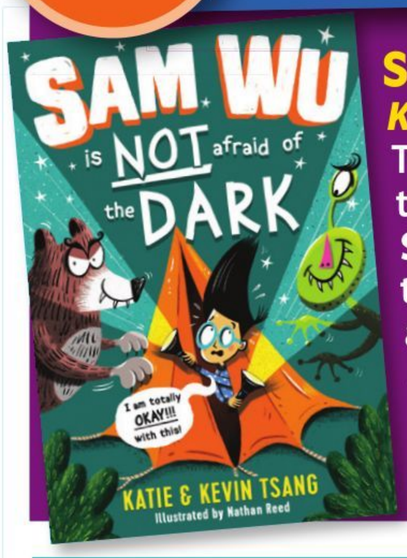
Good choice! Rex is a master of disguise. If you could disguise yourself as any animal for the day, which would it be?

A **wolf**, definitely. They've always been my **favourite animal**. I'm pretty sure when I was a kid I had an **imaginary pet wolf** for a time!

Ha! Great chatting, thanks, Daniel!

Don't miss the **full video interview** at **natgeokids.com/uk/playmobilmovie/**

Your book reviews



Sam Wu is NOT Afraid of the Dark

Katie and Kevin Tsang, illustrated by Nathan Reed

This book is about a boy called **Sam Wu**. He wants people to think he's **not afraid of the dark** but really he is. His cousin **Stanley** is visiting from **Hong Kong** and Sam doesn't want to spend time with him, but they go **camping** together, and he has to face all his worst fears… the **dark, aliens** attacking and **wild animals**! I really enjoyed this exciting book and I especially liked how the pages set in the **day** are **white** and the pages set at **night** are **black**.

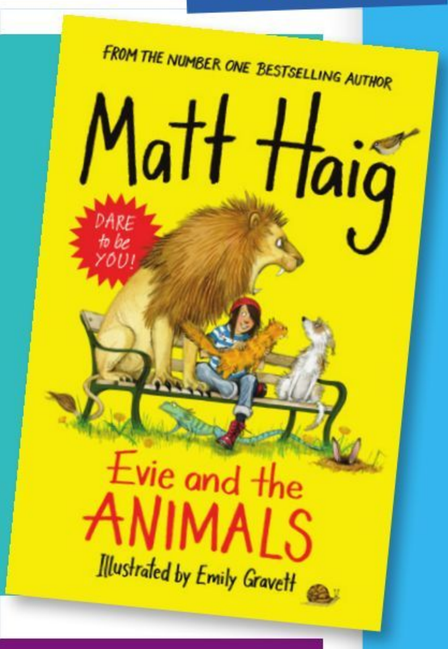
Thomas, 7

Evie and the Animals *Matt Haig*

A girl named **Evie Trench** has a special **Ability**, with a **capital A** – she can **talk to animals**! At the beginning she has a lot of **trouble with friends** who turn out not to be so friendly (naming no names!). She has a **major adventure** with lots of **little adventures** along the way. Evie is really nice and stops at nothing to save her friends.

I couldn't put the book down! I loved the scene at the end where there was a big **tussle** between **Evie**, her **family** and the **bad guys**. Watch out for **Granny Flora**, there's something special about her, too.

Elsie, 7



Starfell: Willow Moss and the Lost Day *Dominique Valente*

When **Moreg Vaine** (the most **powerful witch** in **Starfell**) arrives at **Willow Moss**'s door, Willow is astounded to find out that Moreg needs her help! She needs to find **last Tuesday** (which has gone missing) and Willow has **finding powers**. And so begins an exciting, brain-wracking, dangerous adventure to save last Tuesday!

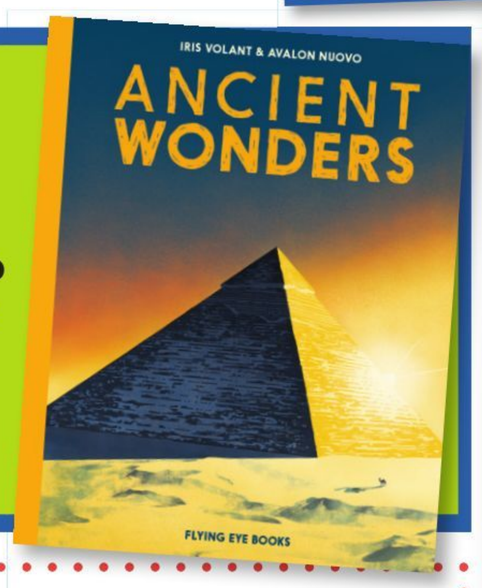
This book is full of twists and turns, and unexpected things keep happening. My favourite character is **Oswin**, who is a **kolbold** (a monster from under the bed), because he says a lot of hilarious things.

Emily, 10

FACT BOOK OF THE MONTH

Ancient Wonders *Iris Volant & Avalon Nuovo*

This **illustrated book** explores the so-called '**Seven Wonders of the Ancient World**' – history's most **remarkable buildings**! Find out what they looked like, who inspired them, and the clever tech that enabled them to be made. Only one of these Ancient Wonders still exists today – the **Great Pyramid of Giza** – while others lie in ruins, or there's no trace of them at all! The book also covers other cool wonders, such as **Stonehenge** and the **Nazca Lines**.



e 2

The city of **Lothal** in **India** has one of the **oldest sewage systems** in the world. It dates back **6,000 years**!

WIN! All four of these books are up for grabs!

Q Which of the following is NOT an Ancient Wonder?

a) The Eiffel Tower **b)** The Hanging Gardens of Babylon
c) The Lighthouse of Alexandria

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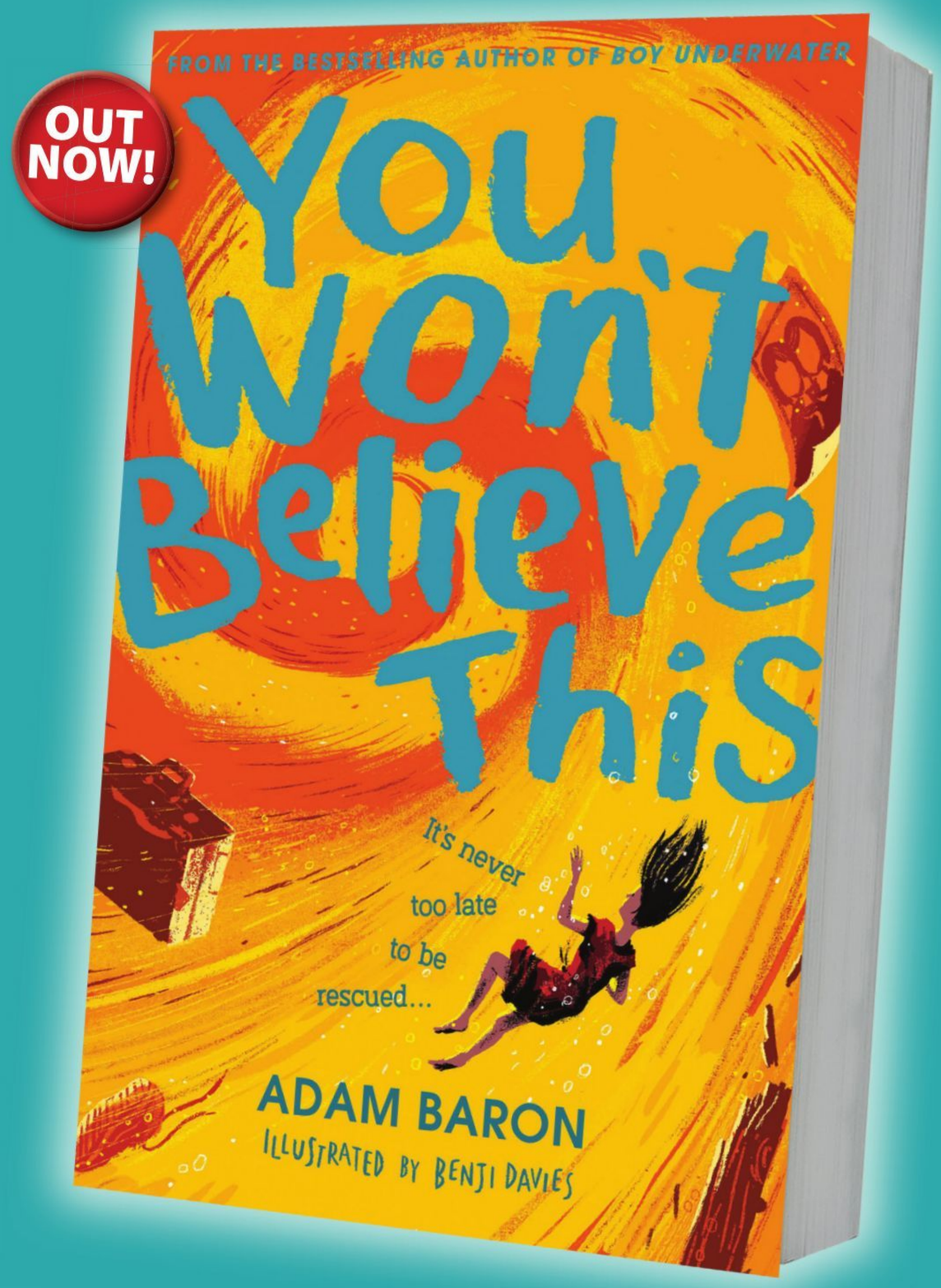
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FROM THE BESTSELLING AUTHOR OF BOY UNDERWATER
You Won't Believe This
It's never too late to be rescued...
ADAM BARON
ILLUSTRATED BY BENJI DAVIES

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Get swept up in this hilarious novel of friendship and family secrets, a story which shows that people are people, no matter where they're from…

You *won't* believe this! Someone is doing **TERRIBLE** things to **Mrs Martin**, **Cymbeline Igloo**'s favourite teacher of all time. But who?!

Cymbeline has to find the culprit (after he's learned what the word 'culprit' means, of course). He's also got to help his friend, whose **granny**, **Nanai**, is dangerously ill. It seems Nanai has a secret, connected to her arrival in the UK as a '**Boat Person**' from **Vietnam**. Can Cymbeline figure out **both mysteries** in time?

Written by **Adam Baron**, author of the bestselling ***Boy Underwater***, this book shows one thing you WILL believe – that even the most **unexpected people** can **change your life** in wonderful ways…

Mystery ladder!

Answers on page 56

Fill in the blanks below so that a word is formed on either side. Do it correctly and you'll reveal the name of Cymbeline's friend…

KIE		EIN
ABL		VER
FEA		AIN
ALS		PEN
DOW		ICE
SEM		NCH
IRA		UAD
MEN		GLY
BAK		CHO

Available wherever good books are sold!

Cymbeline search!

Answers on page 56

How many times is Cymbeline's surname – *Igloo* – hidden in this grid?

A I Y F I I V V I X
E B G Y I L G D G J
C W U L H G S L L G
Y D U W O I L E O R
Y F Q I I O I O O O
Z L C G G I G L O O
E I C L L G L B H G
I G L O O L O M H P
X F L O O O O J S J
Q S E N G O V R J P

WIN!

We've got FIVE copies of both ***You Won't Believe This*** and ***Boy Underwater*** to give away! To be in with a chance of winning them, just answer this question…

Q Cymbeline is named after a character created by which famous writer?

a) Enid Blyton **b)** J.K. Rowling **c)** William Shakespeare

Enter on page 55

GEO SQUAD #2

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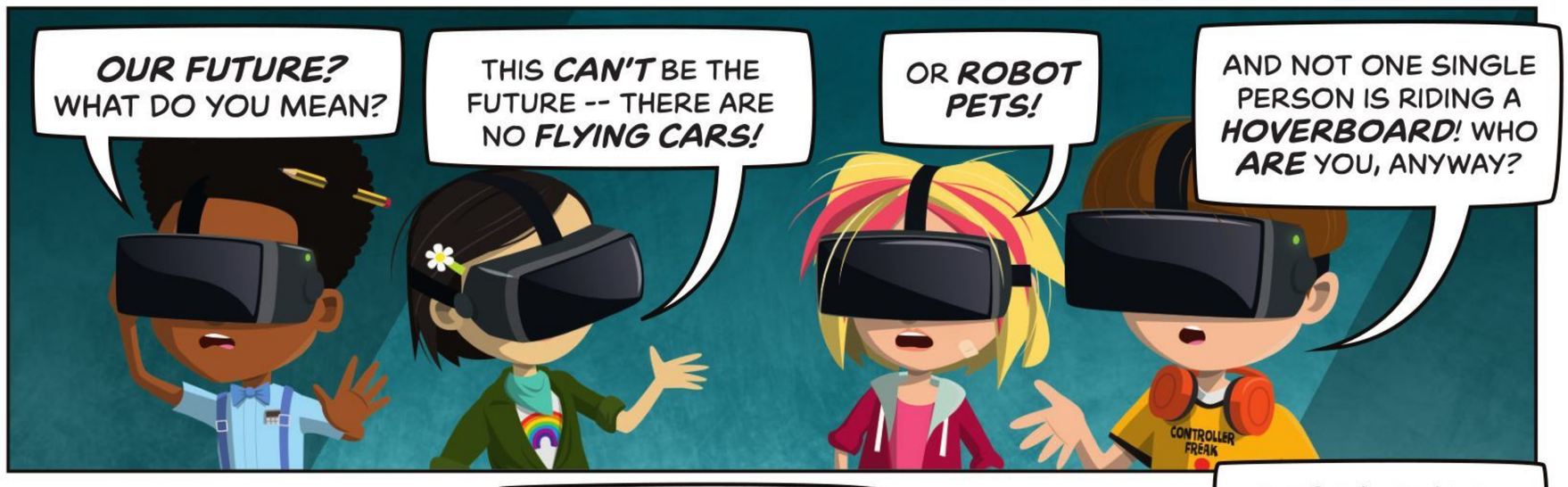
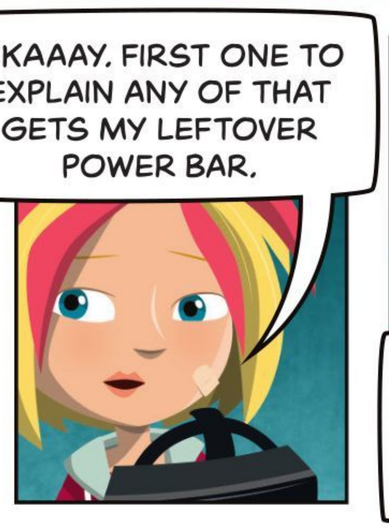
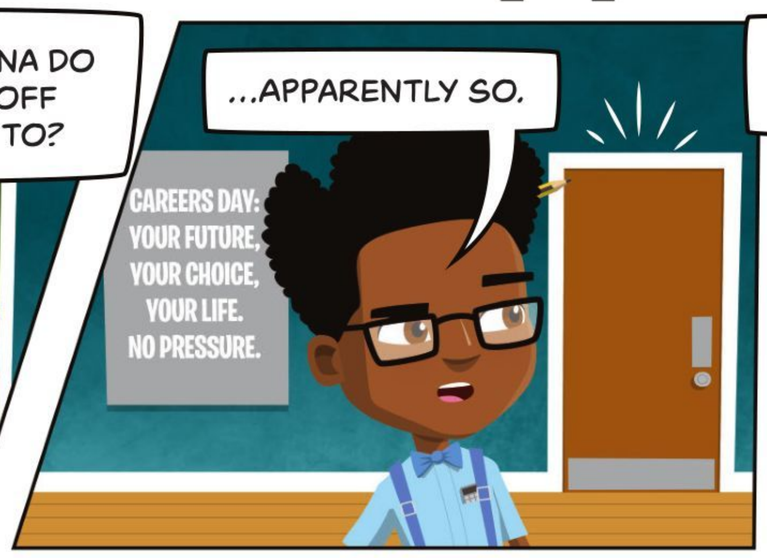
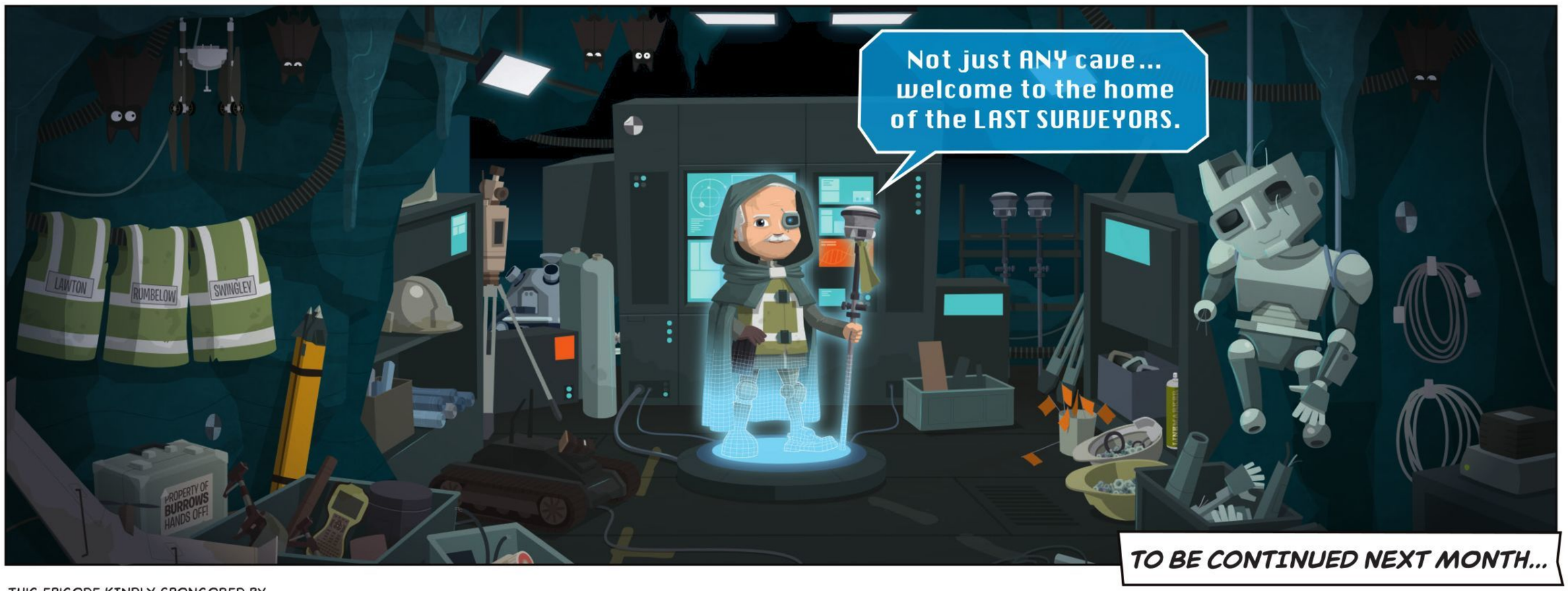

OUR FUTURE? WHAT DO YOU MEAN?
THIS CAN'T BE THE FUTURE -- THERE ARE NO FLYING CARS!
OR ROBOT PETS!
AND NOT ONE SINGLE PERSON IS RIDING A HOVERBOARD! WHO ARE YOU, ANYWAY?
CONTROLLER FREAK





SUIT YOURSELF, WIMPY KNICKERS, I WANT TO SEE WHAT THE FUTURE HOLDS...
IT'S DARKER THAN BATMAN'S UNDERWEAR DRAWER IN HERE.
SPEAKING OF WHICH, ARE WE IN... A CAVE?
>TIMENET CONNECTION ESTABLISHED<



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Ocean Special!

We all know that plastic is harming sealife. Meet three creatures that were caught up in the mess, and the humans who *saved* them...

Habitat: Open Ocean

DOLPHIN RESCUE

DIVERS TAKE ACTION TO SAVE A DOLPHIN FROM FISHING LINE...

A dozen reef **manta rays** swim in the open ocean near the island of **Hawaii**, scooping up plankton in their mouths. Divers point their lights towards the scene, watching the rays. A male **bottlenose dolphin** swims slowly through the group, catching the divers' attention. He's **alone**, which is unusual since most dolphins travel in **small pods**, plus he doesn't seem to be afraid of the divers' **noises**.

The dolphin passes back and forth in front of the humans a few times, as if to **get their attention**. "We usually don't interact with wild animals," says underwater camera operator **Martina Wing**. "But it looked like this dolphin was trying to show us that **he had a problem**." Sure enough, the dolphin, later named **Notch**, is **tightly tangled** in **fishing line**.

OPEN-OCEAN TRASH

Plastic can be found at every level of every ocean. Light plastic **floats** on the ocean's **surface**, while heavier plastic typically **sinks** to the very **bottom** – but a lot of plastic floats somewhere in the **middle**.

This rubbish is carried through the oceans by **wind and water currents**, often ending up swirling in one of **five** so-called '**garbage patches**' around the world created by circular ocean currents called **gyres**. The biggest of these is the **Great Pacific Garbage Patch**, which floats between Hawaii and **California** in the **USA**. It contains a stretch of waste roughly ***six times the size of the UK***. Many of the items in this garbage patch are **microplastics**, tiny pieces of plastic no bigger than a **sesame seed**. But by weight, the most common item in the garbage patch is **abandoned fishing gear** – the same stuff that's entangling Notch.

SNIP AND SAVE

Diver Keller Laros uses scissors to carefully remove plastic fishing line and a hook lodged in the dolphin's left fin

Bottlenose dolphins can swim at up to **30kmph**!

The **Great Pacific Garbage Patch** is estimated to have about **1.8 trillion** pieces of plastic in it.

Experts think **8.8 million tons** of plastic enter the ocean every year.

The ocean covers more than **71% of Earth's surface**. About **97%** of the planet's water is in the ocean.

BOTTLENOSE DOLPHIN
Off the coast of Kailua-Kona, Hawaii

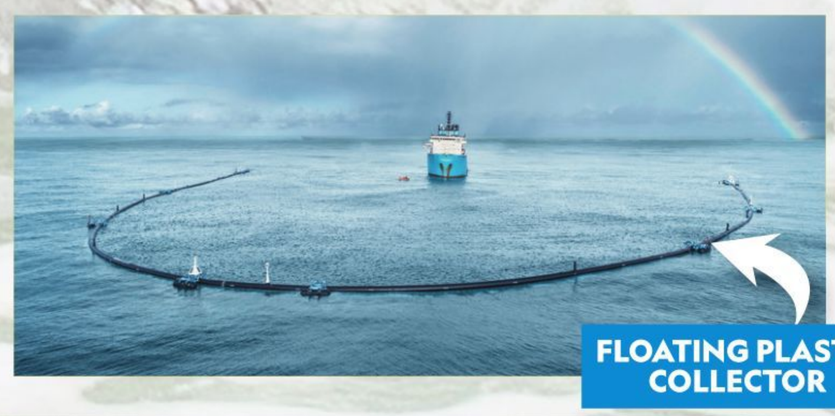
HOW TO HELP!

Give your friends **plastic-free gifts,** such as **home-made treats, film tickets** or **books**!

POLLUTION SOLUTION!

CATCH THE TRASH

How do you scoop up a lot of rubbish? With a really REALLY big contraption. Meet the **Ocean Cleanup** system, a **610-m-long U-shaped pipe** with an attached **net-like skirt**. Floating in the **Pacific Ocean** since **June** this year, the system uses **ocean currents** and **wind** to gather up trash from the surface down to 3m below the structure. Every six weeks boats come to collect the garbage from the skirt and bring it back to shore, where it can be recycled. The **Ocean Cleanup** organisation hopes to launch **60 more sea sweepers** around the world by **2020**. Brilliant news!



FLOATING PLASTIC COLLECTOR

SWIMMING FREE

The divers look closer and see that Notch has a **hook stuck in his left fin** and **fishing line wrapped around his mouth**. A diver tries to use his bare hands to unwind the plastic line from the dolphin's body, but it's hard to remove. Luckily, the diver has a pair of **scissors** and uses them to snip the line. The dolphin **waits patiently** for the diver to carefully remove the hook next. "He seemed so relieved when he was finally free," Martina says.

A year later, a group of snorkellers spots a **healthy-looking Notch** swimming with a potential mate. "I'm so glad we were able to rescue him," Martina says. "Hopefully he's now going to have a family."

Turn over to read more amazing ocean rescues!

Water splash illustration © Ljubisa Sujica / Dreamstime; Main image © Tory Kallman / Shutterstock; Rescue image courtesy of Manta Ray Advocates; Ocean cleanup © The Ocean Cleanup; Map © Martin Walz.

Ocean Special!

Habitat: Coral Reefs

WHALE SHARK RESCUE

Whale sharks aren't whales – these **filter feeders** are the **world's largest fish,** growing up to **18m** in length!

BRAVE SWIMMERS COME TO THE AID OF A WHALE SHARK ENTANGLED IN PLASTIC...

A young **whale shark** swims slowly through a **coral reef** off the coast of the **Philippines** in **Southeast Asia**. At first, divers are thrilled to spot the **4-m-long fish**. But as it moves closer, they see that the shark has a **rope** and a large **plastic net** wrapped around its middle, **blocking its gills** and **cutting into its fins** and back (see below). "It looked like a **ghost** floating through the coral reef," says diver **Pierlo Pablo**.

If they're not removed, the netting and rope will become tighter as the whale shark grows. The **exhausted** animal won't have the **strength** to find food, or it might become an easy meal for other sharks. Nicknaming the whale shark **Spooky**, the divers come up with a plan to save it.

REEFS IN TROUBLE

Whale sharks aren't the only tropical ocean animals affected by **plastic**. **Corals** – the animals that create **coral reefs** – are in danger, too. Living corals can become **sick** when a piece of plastic settles on a reef. Scientists think the plastic **tears the corals' skin**, allowing harmful **bacteria** to get in.

Corals can also become entangled in plastic, just like Spooky was. "If a fishing net settles on a reef and a **storm** comes through, the nets can **break off pieces of the coral**," explains **Carlie Herring**, a research analyst with the **National Oceanic and Atmospheric Administration** in the **USA**. But we need corals to keep the ocean healthy, because it's estimated that about a **quarter** of all **marine species** – including whale sharks like Spooky – depend on coral reefs for their survival.

SPOOKY CELEBRATION

Back at the coral reef, divers must **act quickly** to save the whale shark. Spooky **stays still** as one of the divers **swims under the animal** and starts to carefully cut the rope with a knife. "It was like the shark knew we were trying to help it," Pierlo says. The

A WHALE OF A RESCUE

1 Divers found the whale shark covered in plastic netting

2 A diver works out how to free the fish

diver moves **slowly**, careful not to cut into the shark's skin. After a few minutes, the diver is able to **unwind the rope** and the trapped net from around Spooky's body.

Finally free, the enormous fish moves towards the dive boat and **floats alongside the divers for an hour** before swimming away. "We felt like he was saying thank you," Pierlo says. "I hope Spooky is still out there somewhere – eating, swimming and exploring."

Free at last, Spooky swims away!

WHALE SHARK
Tubbataha Reef

Coral reefs

More than **705,000 tonnes** of **fishing nets** enter the ocean every year.

Bottom trawling is a method of **fishing** in which a net is **dragged** over the **seabed**, dragging up **everything** in its path, including **coral**.

HOW TO HELP!

Swim over to **mcsuk.org/goodfishguide** to find out which fish have been caught in a **safe, sustainable** way!

POLLUTION SOLUTION!

TRAP THE TRASH

Normally YOU throw your litter in a bin – but *this* bin grabs its own trash! The **Seabin** is a 50-cm-wide **waste basket** that bobs about in the water, **sucking up floating rubbish** on and just below the water's surface. Fish don't swim that near the surface so they're not sucked up, too. Workers check the **ocean vacuum cleaners** every day, sorting out the **recyclable plastic** from the rest of the junk.

Each bin collects about **4kg** of trash every day and so, with **720 Seabins** in marinas and harbours around the world right now, more than **1,000 tonnes of marine litter is collected every year**! The company hopes to install more than **5,000 Seabins** over the next few years – so hopefully we'll be seeing a lot less ocean trash soon!

Flip the page to read another amazing ocean rescue!

Reef illustration © Klara Viskova / Dreamstime; Main image © Toby Chung / Getty Images; All rescue images courtesy of Sea Doors; Seabin © Seabin Project; Map © Martin Walz.

Ocean Special!

Habitat: Seagrass

SEA TURTLE RESCUE

RESCUERS SWOOP IN TO HELP A SEA TURTLE THAT SWALLOWED A BALLOON...

A young **green sea turtle** bobs along the surface of the water off the coast of **Florida, USA.** Young turtles don't usually hang out at the surface because that's where **predators** can easily spot them. Plus their **food** is found **deeper underwater**. But something is stopping this 30-cm-long turtle from diving.

Luckily, rescuers spot the struggling reptile and take it back to the **Clearwater Marine Aquarium**, where they name it **Chex.** Staff place Chex in a **shallow kids' paddling pool** so that the turtle won't **waste energy** trying to dive.

They **test Chex's blood** and take **X-rays** but staff can't figure out what's wrong. "Then one day Chex started pooping out something weird," biologist **Lauren Bell** says. The strange object turns out to be a **balloon** and an attached **string**.

SOS (SAVE OUR SEAGRASS!)

Sea turtles often **mistake floating rubbish** for **jellyfish**, one of their favourite foods. "Even some *people* can't tell the difference between a **plastic shopping bag** and a **jellyfish** in the water," Lauren admits. Sadly, plastic doesn't just hurt the sea turtles – it harms their habitat, too.

Green sea turtles often hang out **close to the shore** near **seagrass**, their fave snack. Plastic litter left on the **beach or washed into the sea from rivers often** ends up in this habitat. When it gets tangled in the seagrass, **the rubbish can smother the grass**, causing it to die. And that can mean trouble for green sea turtles like Chex that rely on the seagrass for food or shelter.

BYE, BALLOON

After several days at the aquarium, Chex starts to improve as the balloon makes its way through the turtle's digestive system. Eventually the entire balloon comes out, along with a **60-cm-long string.** A few months later, after aquarium staff have successfully introduced solid food back into Chex's diet, rescuers declare the turtle is **ready to return** to the sea.

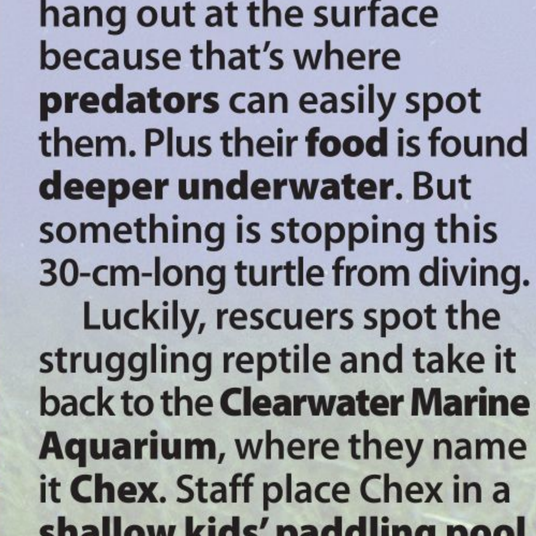
Lauren stands hip deep in the waves as another staff member hands Chex to her. She carefully places the little turtle in the water and watches it **paddle away**.

"Chex was like, 'Oh, there's the ocean! OK, bye!'" she says. Chex's rescue is **worth celebrating**… but *without* the **party balloons.**

Green sea turtles are **omnivores** (eat animals and plants) when they're **young,** but they become **vegetarian** as **adults.**

During one **three-hour cleanup** on a beach in **Virginia, USA,** volunteers collected over **900 balloons.**

TURTLE POWER



1 Chex the green sea turtle probably mistook a 60-cm-long balloon string for food.

2 Biologist Lauren Bell prepares to release the little turtle back into the sea. Yay!

An **average-sized green sea turtle** weighs as much as **six 10-year-old children**!

GREEN SEA TURTLE
Redington Beach, Florida

HOW TO HELP!

Try using **paper pom-poms** instead of **balloons**. And choose **reusable straws**, **shopping bags** and **bottles** rather than **single-use plastic** ones!

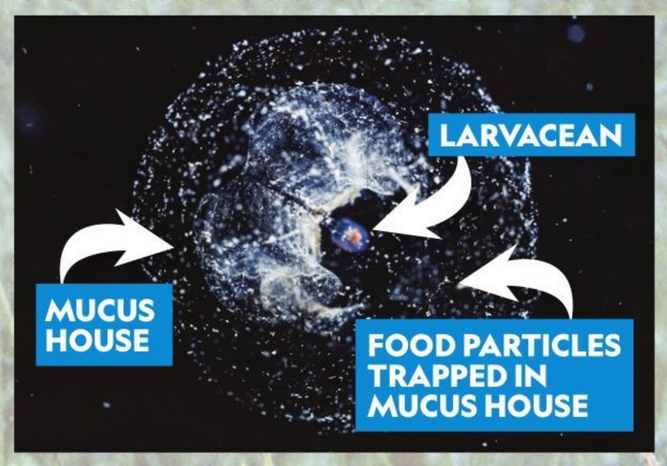
A recent study found that over **half** of all **sea turtles** have eaten **plastic** in their lifetime.

POLLUTION SOLUTION!

PLASTIC PREDATOR

The ocean is full of **trillions of pieces of trash** called **microplastics** that are smaller than the **full-stop** at the end of this sentence. And that makes them really **hard to clean up**. But experts think the solution might be inspired by **tadpole-like creatures** called **larvaceans** (pronounced 'lar-VAY-shuns').

These marine animals eat by **filtering tiny food particles** out of the water and through their bodies. The particles are first **trapped** in what's called a **mucus house** – a thin, see-through **bubble** of mucus – that **surrounds** the larvacean as it travels. Scientists are studying this behaviour to see if a similar process could **pull harmful microplastics** out of the water. Science to the rescue!



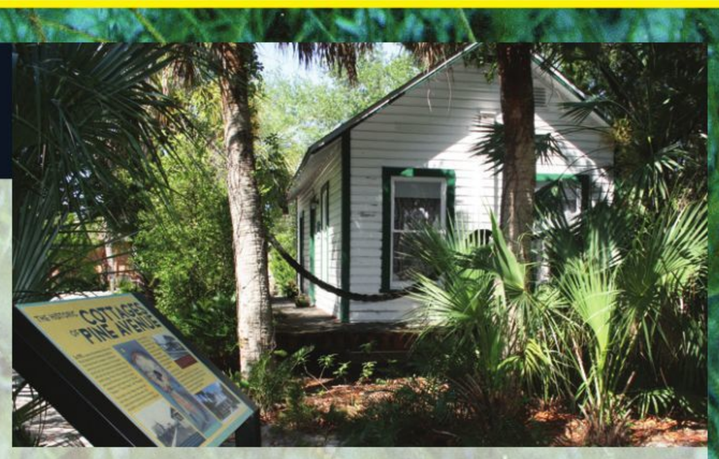
ECO ISLAND!

A small island off the west coast of **Florida**, **USA**, has been dubbed the '**Greenest little Main Street in America**'!

Single-use plastics, such as **plastic straws** and **carrier bags**, are banned on **Anna Maria Island**, helping to protect the local **sea turtle population**.

Islanders are encouraged to reduce their **carbon footprint** by **not driving cars** (the speed limit is 35mph for those who do decide to use a vehicle), and a **free electric 'trolley bus'** ferries people around the island.

Many of Anna Maria's houses are made from **recycled driftwood** (see above) collected from the **sea**, reducing waste. How cool is that?!



Seagrass illustration © Klara Viskova / Dreamstime; Main image © Science Faction / Getty Images; All rescue images © Clearwater Marine Aquarium; Larvacean © Norbert Wu / Minden Pictures; Anna Maria Island © Kate Stephenson. Map © Martin Walz.

THE BIG INTERVIEW

National Geographic Explorer Erika Bergman tells us about her adventures as a submarine pilot!

Submarine photos © Barry Brown; Headshot © ??

Being small like Erika is an advantage when you're squeezed into a tiny submarine!

My nickname is **Submarine Girl!** But I'm also a **marine conservationist, oceanographer** and **engineer!**

"The submarine produces a bit of stray electricity. And because sharks use electricity to hunt, we usually get a few sharks coming to see what this 'giant fish' is that they've sensed from far away!"

Name: Erika Bergman

From: Erika grew up around the **Pacific** and **Atlantic** oceans. As a child she lived in **Florida, Washington** and **Hawaii** in the USA.

Job: Submarine pilot, National Geographic Explorer, engineer and ocean explorer.

WANT TO BE AN OCEAN EXPLORER?

READ: ***Ocean A Children's Encyclopedia*** by DK and ***Ultimate Oceanpedia*** from NG KiDS books.

WATCH: ***The Deep*** and the ***Blue Planet*** series on iPlayer.

STUDY: **Science**, **Maths**, **English** and **computer science** at school. Then you'll need to do a three to five-year-long **oceanography degree** at **university**.

Erika makes movies, too! Here she is in scuba gear filming

Returning to the surface after a dive

Hi Erika! What's it like inside your submarine?

Hey! It's a **huge clear acrylic bubble**, so you can **see in every direction**. It's like going to the **aquarium** – only the **fish come to look at you** instead!

Ha! How long do your submarine trips last?

There's **no bathroom** in the submarine, so our trips last just about as long as our **bladders** do! **Two to five hours** is pretty typical.

What's the deepest you've been?

I've been all the way down to **640 metres**. At that depth, it's **pitch-black** so we have **giant lights**. Sometimes we **turn them off**, let the fish come in **really close** and then **flash them back on** so we can see some crazy deep-sea creatures!

Awesome! Can you tell us about some of the weirdest things you've discovered?

Once, off the coast of **Miami**, **Florida**, in the USA, our scanner picked up something that looked like a **60-m-long shipwreck**! We planned a submarine mission right away, but when we got down there it turned out it wasn't a shipwreck at all. It was a **huge sand bank** that had built up around a **World War Two aeroplane**! No one ever knew it was there!

Wow! Have you ever felt scared under the sea?

I've **never been afraid** underwater. The submarine's system is designed so even if one thing goes wrong, there are many ways to **safely return** to the surface.

Do you have a specific mission each time you go out in a submarine?

We never know what we're going to find on the first dive! We take **special equipment**, such as **sonar mapping gear** or **big cameras**, but we never really know what we're going to see until we're down there.

Sounds exciting! So much of the sea is still unexplored. What do you think might be out there, waiting to be found?

Shipwrecks, **new species** and **geological wonders**!

"I've been on HUNDREDS of DIVES in oceans all around the WORLD!"

As a child, you tinkered with tractors on your family farm, then went on to work as an engineer on huge ships. What do you like about engineering?

I love working so hard that you're **covered in grease and grime** by the end of the day! And I like it when something that was **broken in the morning** can be **fixed by the afternoon**! Engineering involves **creative problem-solving**, too. It's really **empowering**!

Have you always been interested in the sea?

The ocean has always drawn my attention deeply. When I was about **seven** my dad put me on a small **windsurf board** in the bay we lived on in the **Gulf of Mexico**. I **loved swimming** in water but all of a sudden I was **shooting across it**, and I **screamed** and **jumped off**! Being IN the water was **my safe zone**, but being on top of it was frightening because we had **stingrays**. Jumping off a windsurf board into stingray-filled waters helped me **appreciate** that we **share the ocean** with many wild animals.

How are humans harming the sea?

Sadly, I see **single-use plastic** all over the ocean. Sometimes it's bigger things, like **umbrellas**, **tyres** or **entire boats**. But mostly it's **small pieces of plastic**, such as empty **drinks bottles**. They float around until they break down into even smaller bits called **microplastics**.

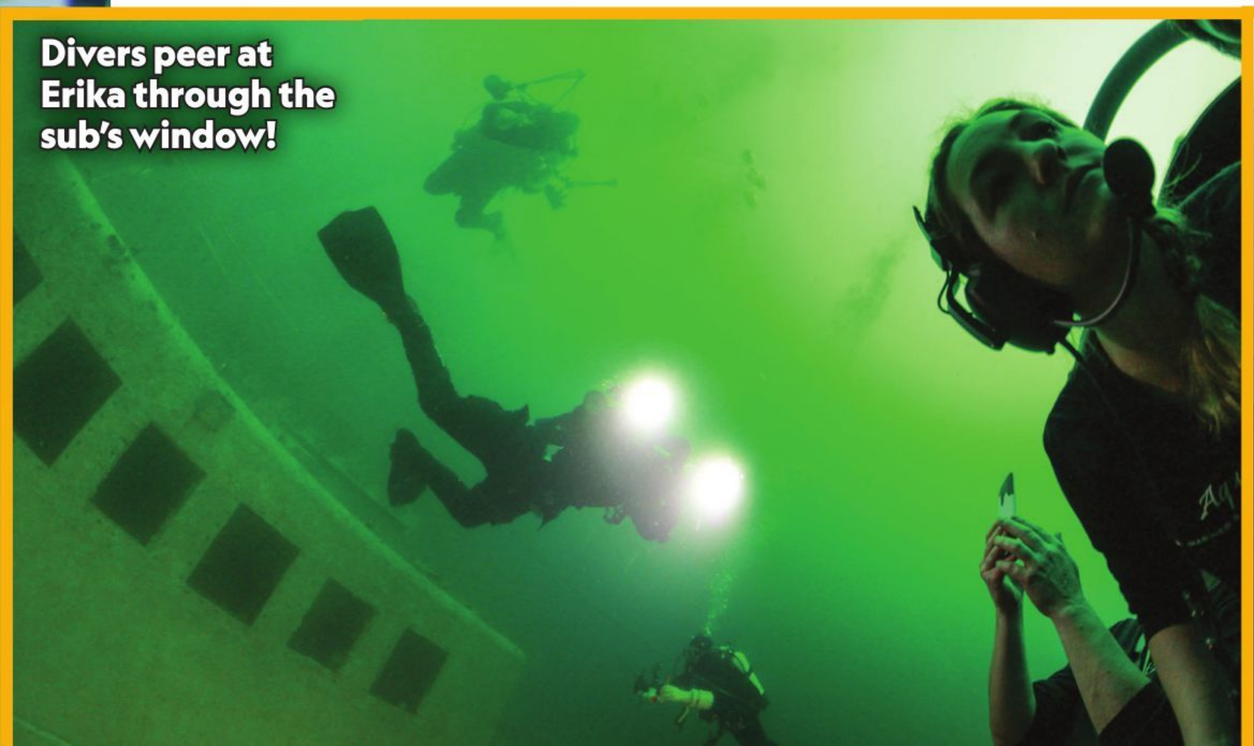
How can NG KiDS readers help?

An easy way to help is to **pick up one bit of litter** every day – especially if it's **not yours**!

What's your favourite sea creature and why?

Lobsters! They can **live forever** if they don't get hunted or sick. They can grow to **enormous sizes**, and their cells **regenerate**. How cool is that?!

So cool! Thanks Erika!



Divers peer at Erika through the sub's window!

Erika (second from left) runs a *Girls Underwater Robot Camp* – looks fun!

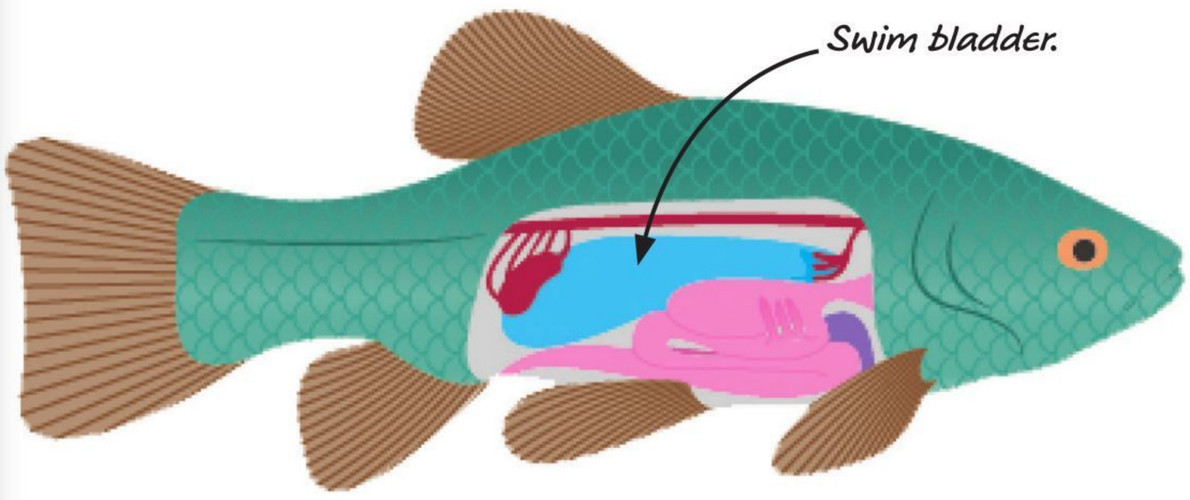
How fish

Ever wanted to know how fish get about? Dive in to find out...

All fish use movements of both their **body** and their **fins** to **swim**. And many species have **special organs** to help their muscle-packed bodies **stay afloat** in the water.

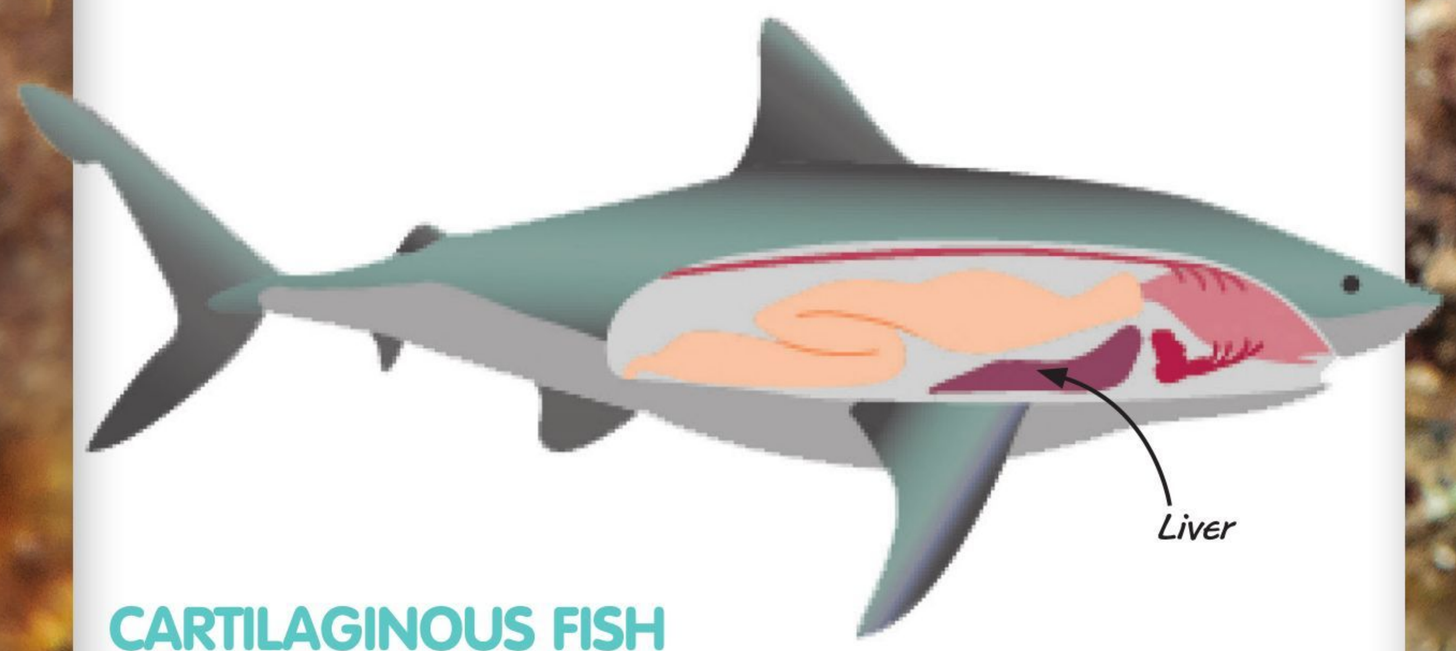
BUOYANCY

Bony and **cartilaginous*** fish are **denser** than water, so they have **internal organs** to improve their **buoyancy** and stop them sinking!



BONY FISH

Most bony fish have a **gas-filled sac** called a **swim bladder**, which **inflates** and **deflates** using **gas** from the **bloodstream**. The swim bladder lets the fish move **up** and **down** in the water without using energy for swimming.



CARTILAGINOUS FISH

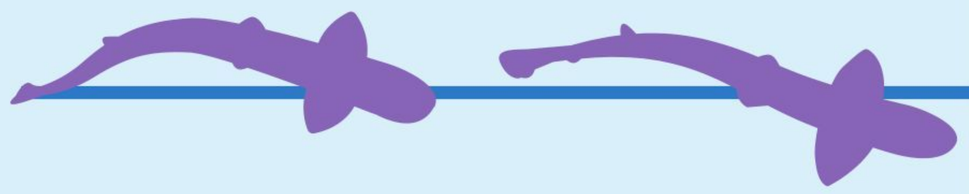
Sharks have large, oily **livers**. This organ helps to keep them afloat because **oil is lighter than water**. However, most sharks also need to **swim continuously** to maintain their **buoyancy**.

* Cartilaginous fish have **skeletons** made from **cartilage** instead of bone. **Human noses** and **ears** are also made of cartilage. It's **lighter** than bone. **Sharks**, **skates** and **rays** are all cartilaginous fish.

The **fastest fish** have **streamlined, rigid bodies** that hardly bend, and **stiff tails** that beat rapidly to generate **forwards thrust**.

CURVY MOVERS

Fish swim using a series of S-shaped curves that start at the head and sweep along the body.



1. The head moves to one side and the rest of the body follows, creating a curve.
2. The curve moves down the body, reaching the tail, which pushes outwards, moving the fish forwards.

swim!

Mandarin fish (pictured here) aren't protected by **scales**. Instead, they're covered in a **smelly mucus** which deters predators!

Pelvic fins can be used to **prop fish up** when they're resting.

Pectoral fins pulse, helping **propel** the fish through the water.

The large **tail fin** sweeps from **side to side**, pushing it forwards.

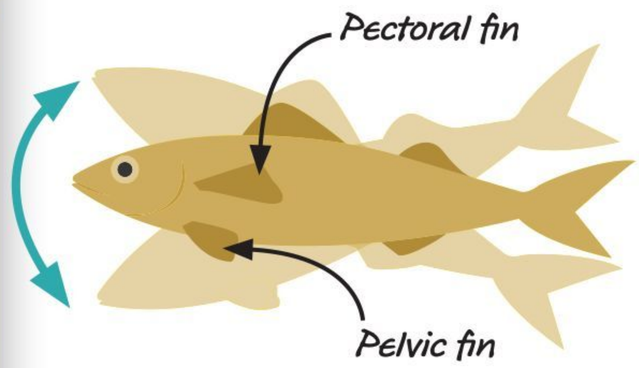
When a curve reaches the tail, the tail moves from side to side, pushing the fish forwards.

3 The head turns to the opposite side, starting a new curve.

4 The new curve causes the tail to push in the opposite direction before the next curve begins.

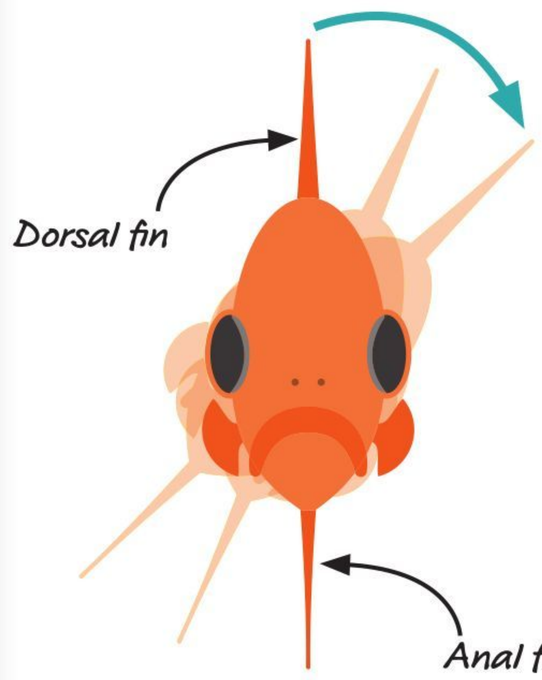
FIN-TASTIC MOVEMENT

Fish use **fins** for **steering** and **stabilisation** in shifting underwater environments. They can use them to stay **level**, or to **move in different directions** in the water.



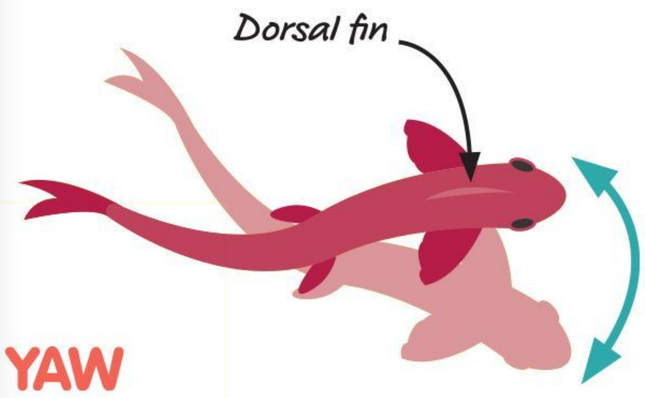
PITCH

The two **pectoral** and two **pelvic** fins control movement **up** and **down** (**pitch**). Fish can also use these fins to stay level in the water.



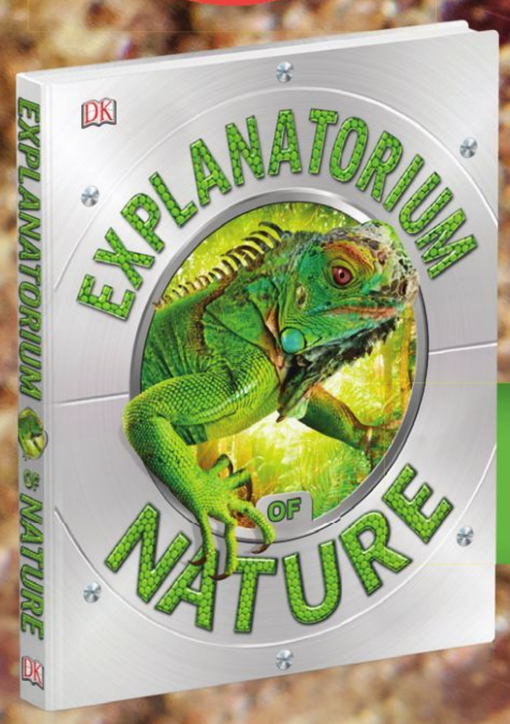
ROLL

The **dorsal** and **anal** fins control **rotating movement** (**roll**), and can be used to keep the fish **upright**. **Fast fish** can **flatten** these fins to create more **streamlined bodies**.



YAW

The **dorsal** fin controls movement from **side to side** (**yaw**), and can keep the fish **pointing in the right direction**.



Extract from ***Explanatorium of Nature***, published by DK, £20.00.

Marine move

Meet four freaky sea creatures that get around in weird ways. Who says fish nee

Park & ride!

Here's one fish that *really* sucks! The **remora** lives in warm waters around the world, getting about by **hitching lifts** on **sharks**, **whales**, **turtles** and **rays** – it's even been known to attach itself to **human** divers! The **flat dorsal fin** on top of this hanger-on's head looks like the **tread on your trainers**. The super-grippy surface enables the remora to **stick to passing sea creatures** for **months at a time**. There, it gobbles up **scraps of food** and is **protected** from predators. *Sneaker*-y, eh? But this free-riding fish *does* pay for its trips, eventually. In exchange for lifts, it picks pesky **parasites** off its chauffeur's **skin**. *Fare* enough!

Remoras sometimes attach themselves to the ***inside*** of their host's **mouth**. Cheeky!

Ear we go!

Most **octopuses** move by **sucking in seawater** and then **squirting** it out of a tube under their heads called a **siphon**. But the **Dumbo octopus** likes to do things differently to its jet-propelled cousins! The eight-legged oddity '**flies**' through the **deep ocean** by **flapping** a pair of big '**ears**' (which are actually **fins**) on its **mantle** (body). This energy-efficient way of getting around makes the adorable **cephalopod** look a bit like **Dumbo** – Disney's famous large-lugged elephant, hence its name! Aww… who knew octopuses could look so cute?

Dumbos are the deepest-living group of octopuses in the world. They're found more than **4,000m** below the water's surface!

rs!

ed to swim?!

Tricks for treats!

This funny-looking fish barely moves at all. The crafty **frogfish** spends most of its life lurking on the **seabed**, disguised as a spiny **sea urchin** (other species of frogfish look like **sponges**, **seaweed** or even lumps of **coral**, see below). Waggling a worm-like **lure** (called an **esca**) to attract prey, when a tasty-looking target approaches, the **camouflaged** critter strikes, swallowing the unhappy meal in a matter of milliseconds. Gulp!
If the frogfish *does* decide to move about, it '**walks'** along the rocky reefs using its stumpy **pectoral fins** like **feet.** Amazing!

Time to walk to the takeaway!

By **stretching their stomachs, frogfish** can gobble up animals **twice their size** – including other frogfish. Yikes!

Stand and deliver!

This seabed **stilt walker** doesn't need to swim to catch its lunch. Instead, to save energy, the **tripodfish** '**stands**' on a trio of **extended pelvic and tail fins**, a bit like a camera on a tripod! Scientists think the fish **pumps fluid** into its **metre-long appendages** to make them **rigid** enough to rest on. The patient predator, found at the bottom of the **Atlantic**, **Pacific** and **Indian Oceans**, waits in the dark depths for tiny seafood snacks – such as **shrimps** and small **crustaceans** – to float by. Then it wafts them mouthwards with another pair of thin, feeler-like fins. *Three*-mendous!

Er, how do I take a selfie?

Tripodfish are **hermaphrodites** – they're both **male** and **female**. This means they can **produce offspring all by themselves**!

Words: Pete Dommett. Pictures: Dumbo octopus © Nature Picture Library; Tripodfish © Ocean Exploration Trust/Nautilus Live. Find out more at nautiluslive.org; All others pictures © Getty Images UK.

18+

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Explore the Ocean with LEGO® Friends Sea Life

The five LEGO Friends are on a mission to find out everything about marine creatures. Let's meet the gang…

Stephanie

Stephanie dives into every challenge headfirst. Speaking of diving, she's also a skilled submarine pilot!

LOVES: Her teammates, competitions

NOT CRAZY ABOUT: Being disorganised

Andrea

Bursting with energy, Andrea is full of spirit and drive. Will her underwater music catch on?

LOVES: Being in the spotlight

NOT CRAZY ABOUT: Sharks!

Olivia

When the mission calls for gadgets and inventions, Olivia always comes to the rescue.

LOVES: Her sidekick Zobo, technology

NOT CRAZY ABOUT: Crowds

Mia

Mia is an adventure seeker and expert on all animals, both in the sea and on land!

LOVES: Animals, alone time

NOT CRAZY ABOUT: Sitting around

Emma

Seeing and capturing the beauty of life under the sea is what Emma does best.

LOVES: Photography, painting, anything creative

NOT CRAZY ABOUT: Missing the sunset

WHICH SEA LIFE FRIEND ARE YOU?

Answer these fun questions to figure out which one of the LEGO Friends you're most like!

START HERE!

I'D DESCRIBE MYSELF AS...

ENERGETIC AND CREATIVE

AWESOME AT PROBLEM SOLVING AND SCIENCE

THE ACTIVITIES I PREFER ARE...

TAKING PICTURES, PAINTING AND DRAWING

LISTENING TO TOP TUNES OR MAKING MUSIC

WHEN IT COMES TO HANGING OUT...

I LOVE TO BE THE LEADER OF THE GANG!

I AVOID CROWDS AND LIKE DOING MY OWN THING!

I PREFER...

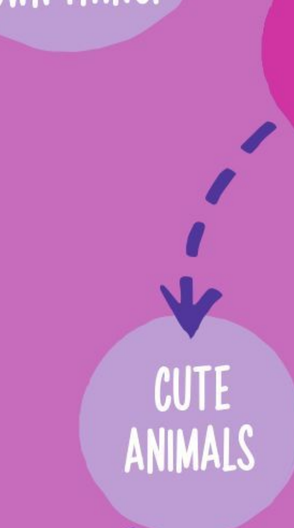
CUTE ANIMALS

COOL GADGETS

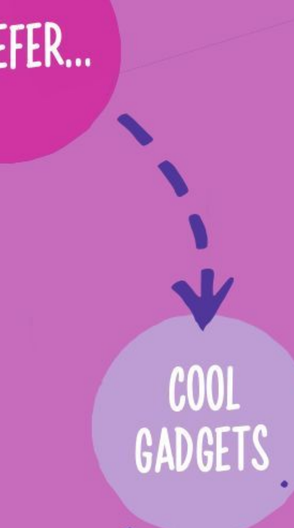
Emma

Andrea

Stephanie



Mia



Olivia

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TURN THE PAGE FOR SEA LIFE PUZZLES AND AN AWESOME COMP!

ADVERTISEMENT

SEA LIFE PUZZLE TIME!

Dive in and get puzzling with the Sea Life Friends!

ANSWERS ON PAGE 56

LEGO® Friends™

Treasure Hunt

Which **line** will lead the **Sea Life Friends** to the **treasure chest**?

Missing Piece

Can you select the **piece** that completes this scene from the **LEGO® Friends** TV show?

Mia Match

Which two of these images of Mia are exactly the same?

Search & find

Look in the lighthouse for these things!

- [ ] YELLOW FLAG
- [ ] GREEN CAMERA
- [ ] TWO SEA LIONS
- [ ] TELESCOPE
- [ ] STETHOSCOPE
- [ ] STARFISH
- [ ] TWO SILVER FISH

LIGHTHOUSES HAVE BRIGHT FLASHING LIGHTS TO WARN BOATS ABOUT DANGEROUS AREAS AND HELP SAILORS FIND THEIR WAY!

AVAILABLE NOW!

WIN!

LEGO FRIENDS SEA LIFE SETS!

One star-prize winner will scoop the **entire LEGO Friends Sea Life range – Rescue Mission Boat, Lighthouse Rescue Center, Dolphins Rescue Mission** and **Turtle Rescue Mission.** Cool! **Five** runners-up will bag the **Turtle Rescue Mission set.** For your chance to win, just answer this question…

Q What are groups of sea lions called?
a) Colonies b) Armies
c) Communities

ENTER ON PAGE 55

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weird but true!

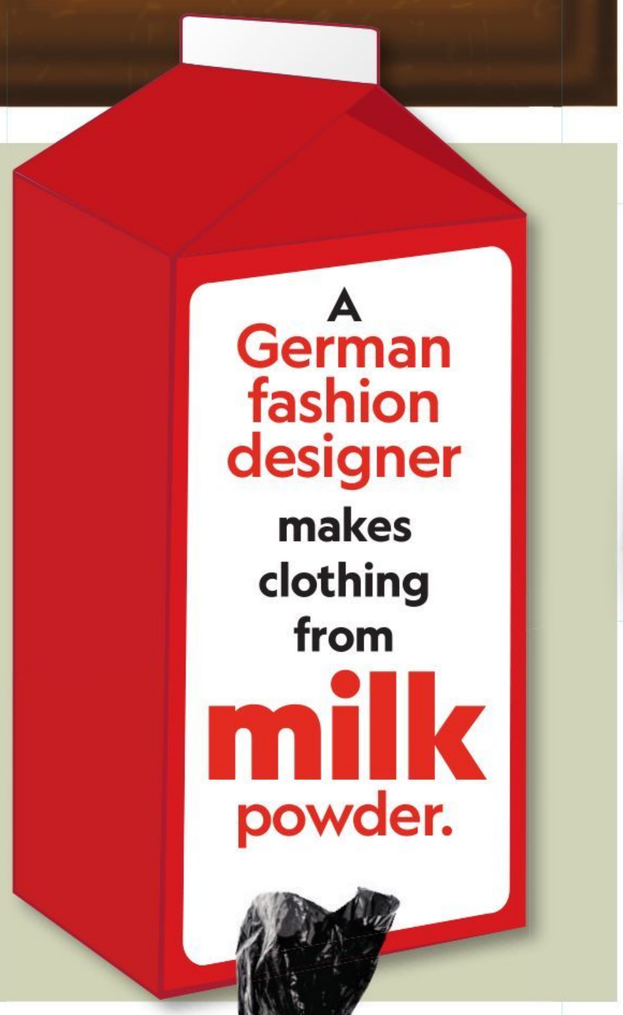
Check out these outrageous facts...

Goats can snack on **poison ivy.**

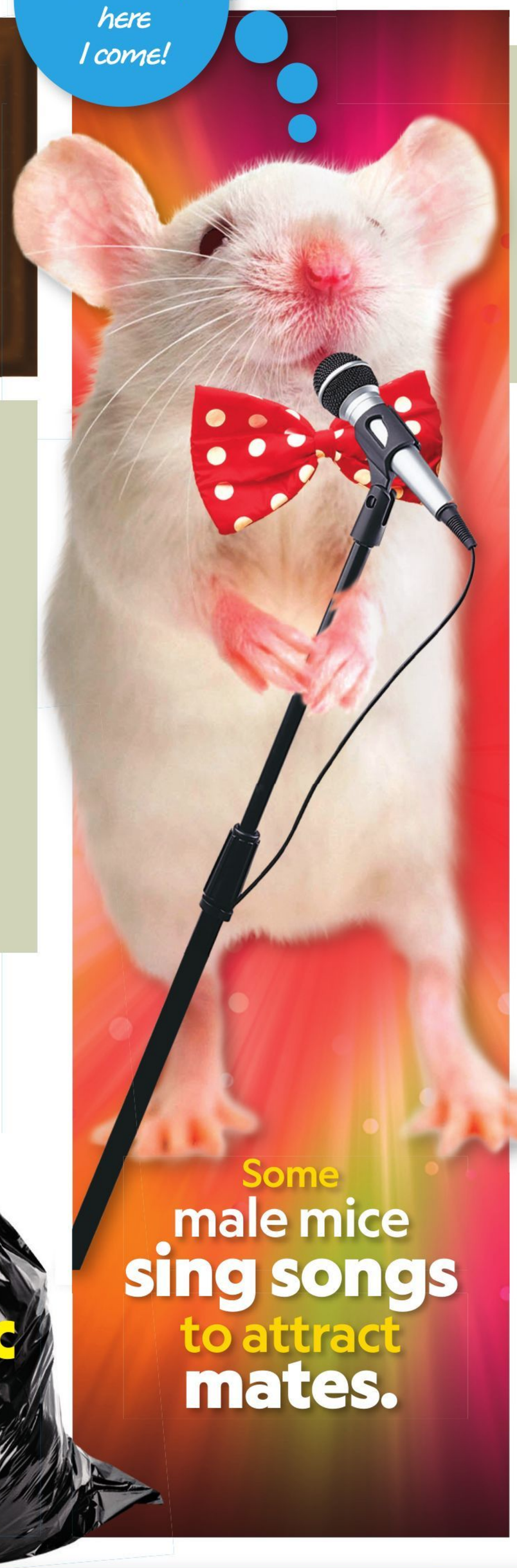
Britain's Got Talent, here I come!

A sculptor carved chairs, a table and a sofa out of **chocolate.**

A man once **blew a bubblegum bubble** that was twice the size of a **basketball.**



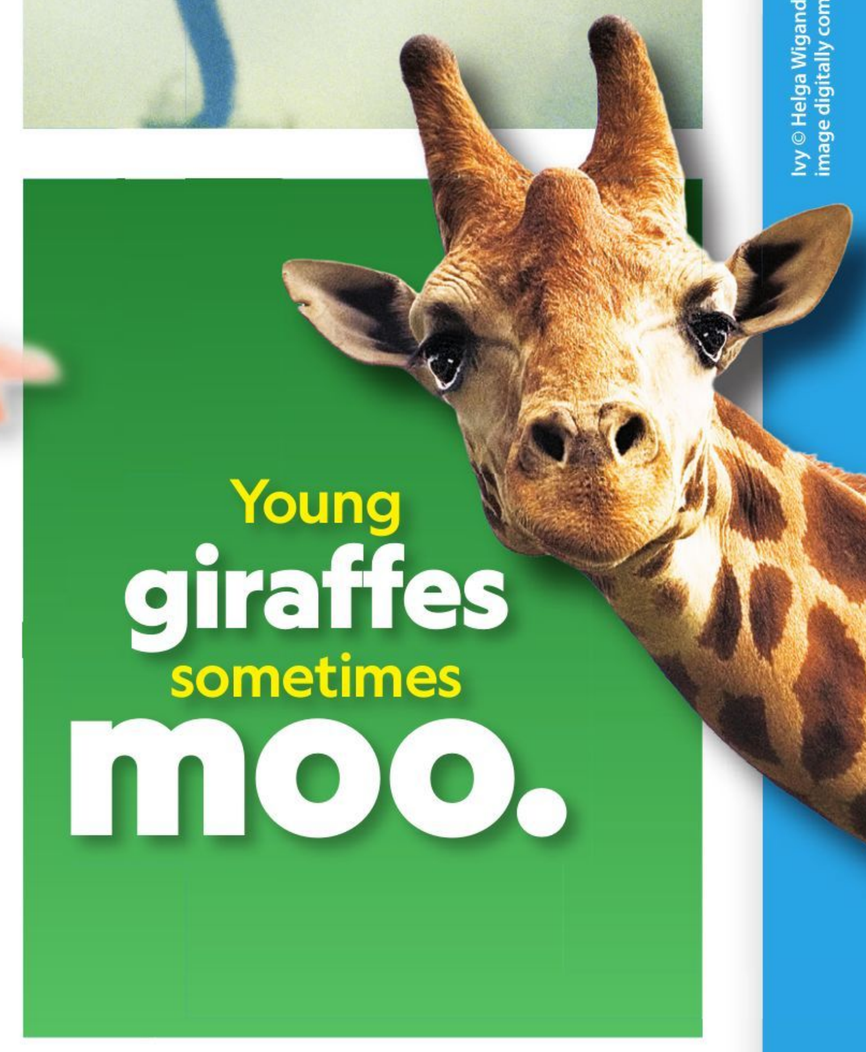
A German fashion designer makes clothing from **milk** powder.



Most tornadoes occur between **3pm** and **9pm.**

In Taiwan, garbage trucks **blast music** to remind people to bring out the **trash.**

Some male mice **sing songs** to attract **mates.**



Young **giraffes** sometimes **moo.**

Ivy © Helga Wigandt / Shutterstock; Mouse © Redmond Durrell / Alamy; Comstock / JupiterImages (bow tie), D. Hurst / Alamy (microphone), image digitally composed; Tornado © Corbis / SuperStock; Rubbish sack © Feng Yu / Alamy; Giraffe © Shamshad Khan / National Geographic My Shot.

NATIONAL GEOGRAPHIC KIDS

BELUGA WHALES

© Getty Images UK.

NATIONAL GEOGRAPHIC KIDS

PACIFIC DOUBLE-SADDLE BUTTERFLYFISH

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BANGGAi CARDiNALFiSH

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NATIONAL GEOGRAPHIC KiDS

STRiPED MARLiN HUNTiNG MACKEREL

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TBC
THE BRIGHT CO.

Brighten up bedtime with this super-stylish sleepwear range from THE BRIGHT COMPANY!

Head to the land of nod feeling comfy and looking cool with this awesome collection of **organic** and **ethical nightwear** from **THE BRIGHT COMPANY**. Fancy **dressing up** for a party and then **dressing down** for bed? Well you can do both with these super-cool PJs. *Snore*-some!

Perfect for wearing **day** *and* **night**, the 'dressing up' pyjamas are covered with **cool patterns** and **bold designs**. Check out the two designs on this page and get ready for some seriously snazzy snoozing!

WIN!

'DRESSING UP' PYJAMAS IN YOUR VERY OWN DESIGN!

The prize

How would you like to create the **jammies of your *dreams***?! One lucky reader will see their pyjama design **made for real**! You'll receive **five pairs** of your **custom-made pyjamas** for you and your friends, plus **£100 spending money**. Cool!

What's more, the winning design will be put into production. How amazing is that?!

How to enter

We want you to design your own **dream 'dressing up' pyjamas**. Will your PJs be **animal-related**, some kind of **superhero**, or something else entirely? Maybe your jimjams will have **wings** or a **tail**? How about a **hat**? Get your thinking caps on and make your creations as **colourful** or **kooky** as you can!

Print out the **pyjama template** at **natgeokids.com/uk/pyjamas/** and then send us your design along with the entry coupon on page 55.

Ts&Cs: The final design may be amended, or altered according to production limitations. The winning design copyright licence is transferred to The Bright Company for the purpose of producing the design for production and sale. The copyright will be owned by the competition winner.

Visit **thebrightcompany.uk** for more brilliant bedtime attire

WHAT WOULD HAPPEN?

Find out what would go down if these crazy scenarios actually came true!

... if Neanderthals hadn't gone extinct?

Neanderthals – a type of **early human** that lived between **40,000** and **400,000** years ago – disappeared about **10,000 years** after **modern humans** came on the scene. **Competition** between the two species was probably a factor in their **extinction**, but what if Neanderthals had survived long enough to swap their **cave** dwellings for **houses**?

These guys didn't react well to **change**, so they'd probably find it hard to **fit in** and would find today's **technology** such as **smartphones** and **social media** difficult to master. With **mammoths** now **extinct** and fewer other animals to hunt, Neanderthals couldn't be picky eaters. They would need to add more **plants** to their dinner plates.

They'd be more likely to live in **remote**, **cold** areas of the world because their **stockier bodies** were better suited for life in an **Ice Age** environment – it's unlikely you'd ever see a Neanderthal **sunbathing**!

... if you were the first person to land on Mars?

With **crewed missions** to **Mars** planned by the **2040s**, the **first person** that will step foot on the planet has probably already been born – maybe it's **you**!

After an **eight-month space flight**, you'd leave your craft to visit some must-see Mars attractions. **Olympus Mons**, the **tallest volcano in the entire solar system**, is about **three times taller than Mount Everest**. Trekking up its slope would be easy in **gravity** that's only **one-third of Earth's**. Alternatively, you might check out the **Hale crater**. Astronomers recently discovered evidence of **salt water** trickling down its walls. You'd help figure out if the water might once have contained **alien microorganisms**. Cool!

... if the internet hadn't been invented?

Bye-bye, **Wi-Fi**. Forget **texting** your friends. If you wanted to connect without the internet, you'd need to talk on the **phone** or **write a letter**. A world without the web *wouldn't* necessarily have to feel **disconnected**, though. In the early **2000s**, people in **Cuba**, an island nation in the **Caribbean**, shared **movies** and **music** through a network of **portable hard drives** passed from **person to person**, a semi-low-tech way of connecting without going online.

But no internet would mean a big change in getting **homework** done. You'd need to go to the **library** or look things up in a **printed encyclopaedia**. Get ready to study like it's **1989**!

... if the Sun suddenly disappeared?

Light from the **Sun** takes about **eight minutes** to reach Earth, and so if the Sun went out of existence, its final rays would reach us eight minutes later. Then, **darkness**. The **Moon** would go **black** once **sunlight stopped reflecting off its surface**, and the only light on Earth would be **starlight** and **artificial light** – **electric light**, **gaslight** and **campfires**.

To survive the **below-freezing temperatures**, humans would need to **move their cities deep underground** near the Earth's **internal heat**, or **geothermal energy**. Luckily the Sun disappearing is **impossible**. But its core *will* run out of **hydrogen fuel**… in about a **billion years**.

... if Columbus had never landed in the Americas?

Christopher Columbus didn't '**discover**' the '**New World**' – **millions** of people **already lived there**, after all. But Columbus, exploring on behalf of **Spain**, was one of the first **Europeans** to set foot in the **Americas** (though he *didn't* actually visit **North America**) and he immediately set about **enslaving the locals** and **robbing** them of their possessions. Many **indigenous people** died from new **diseases**.

So what would the world be like if he *hadn't* set sail in **1492**? Well, eight years after Columbus began his voyage, an explorer named **Pedro Álvares Cabral** made landfall in **Brazil** and claimed it for **Portugal**, one of the world's most **powerful countries** at the time. So even if Columbus hadn't landed in the Americas, the **New World** wouldn't have remained unexplored for long. But with a different country leading the way, today's **maps** and **history books** might look different.

Illustrations by Joe Rocco

HISTORY'S GREATEST HITS

You can visit **Queen Victoria**'s seaside retreat, **Osborne House**, on the **Isle of Wight**!

ALL ABOUT

QUEEN VICTORIA

During this monarch's 63-year reign, Britain changed enormously, from a mostly rural country to a modern industrialised nation…

1819

Queen Victoria was born on **24 May 1819** in **Kensington Palace**, **London**. She was baptised **Alexandrina Victoria**, but her family nickname was '**Drina**! **Fifth in line** to the throne, Victoria spoke **German** at home and learned many other languages including **French**, **Italian** and **Latin** – she didn't speak **English** until she was **three**! She had a strict, "**dreary**" childhood but loved **painting**, **music** and playing with her **pets**.

1837

After a string of **royal deaths**, Victoria became next in line to the throne. And in **1837**, aged just **18**, she was crowned **Queen of the British Empire**. It was the biggest empire the world had ever seen, including **Australia**, **New Zealand**, **Canada**, **South Africa** and later **India**.

1840

Victoria met the love of her life in **1836**, her **German cousin Albert**. Three years later **Victoria proposed**, and they married in **1840**. Victoria wore a **white dress** at her wedding, starting a **tradition** that many brides still follow today. The pair went on to have nine children – **Victoria**, **Edward**, **Alice**, **Alfred**, **Helena**, **Louise**, **Arthur**, **Leopold** and **Beatrice**.

1842–61

Victoria spoke to Albert in his native **German** and the pair shared a **very close relationship**. They spent many **happy summers** together in their seaside retreat, **Osborne House** on the **Isle of Wight**. In **1842**, Victoria became the **first monarch to travel by train** (in a carriage furnished with **velvet sofas**, **silk curtains** and, later, a **loo**!). Sadly, when Albert died in **1861**, Victoria became so **depressed** that she wore **black** for the **rest of her life**.

1861–1901

For years after Albert's death Victoria rarely appeared in public. But, when she eventually returned to public life, the country hosted huge parties where people celebrated her **Golden** and **Diamond Jubilees** (50 and 60 years as Queen). But she wasn't popular with everyone – there were **eight attempts** to **assassinate** her! Somehow, she survived them all!

1901

By the time she died on **22 January 1901**, Victoria had become the **longest ruling monarch in British history** (she's since been overtaken by our current queen **Elizabeth II**). Many of her children and grandkids married into other famous royal families, earning her the nickname '**The Grandmother of Europe**'.

Although she was just **150cm (4ft 9in) tall** (the height of the average 12-year-old), Victoria's legacy casts a long shadow over history!

Illustrations © Marek Jagucki.

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HarperCollinsChildren'sBooks
presents

A boy, a rabbit and a lot of bad luck!

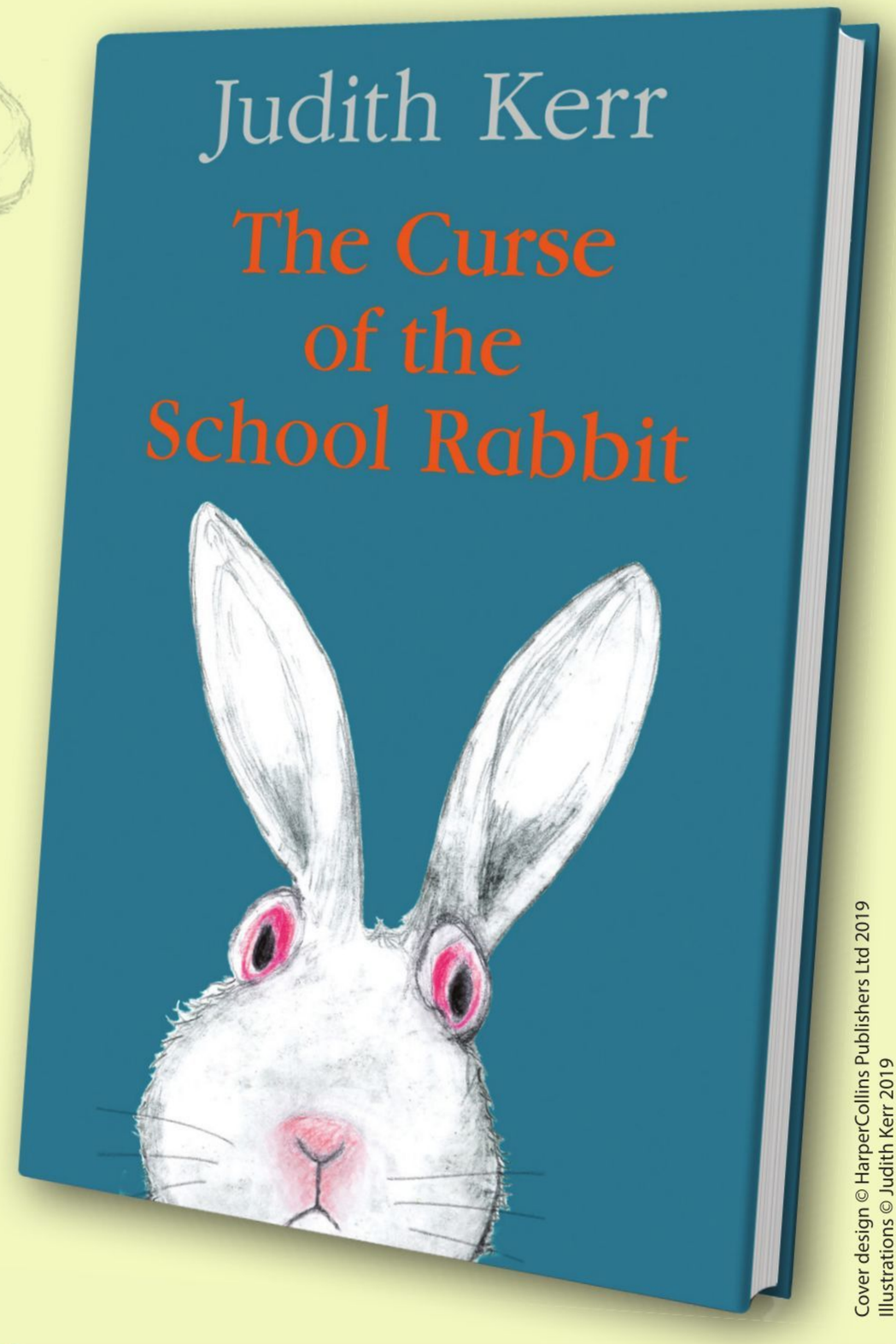
A laugh-out-loud story from the one and only Judith Kerr, author and illustrator of *The Tiger Who Came to Tea!*

Snowflake is the **school rabbit**. And Snowflake is **TROUBLE**…

When **Tommy**'s **sister** brings the rabbit home, *Tommy* ends up having to look after it. On the bright side, he'll get more **pocket money** for feeding it, so he can buy a new bike! But the problem is, Snowflake is **CURSED**, and soon **everything** starts to go **wrong**.

With a **sick sister** stuck in bed, a **snobby actor** with suspiciously damp trousers, and **no rabbit** anywhere to be seen, Tommy can see his hopes of a new bike **disappearing** as fast as Snowflake.

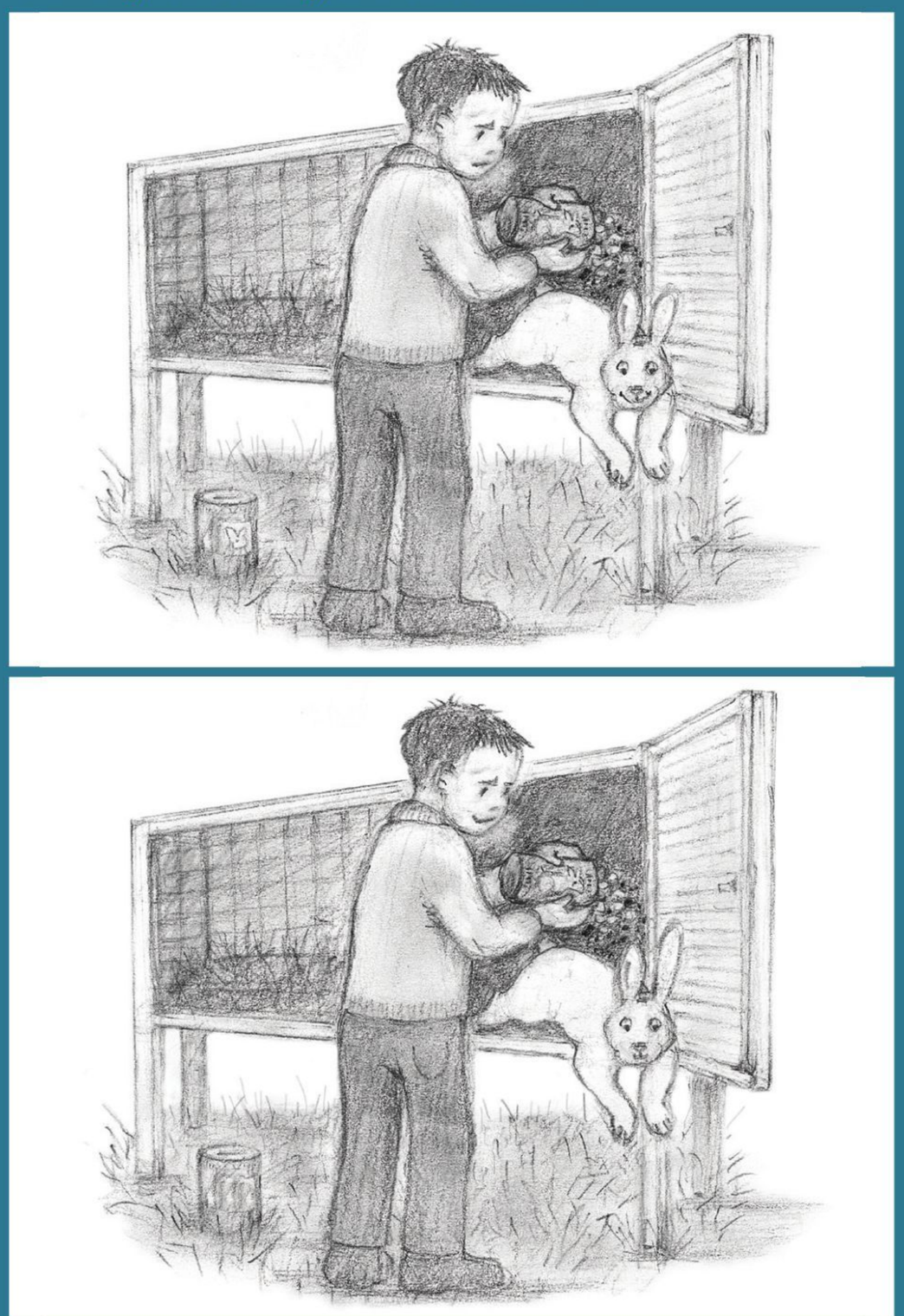
Will Snowflake turn up, and turn out to be more **good luck** than bad? Or are Tommy and his family **DOOMED** by the curse of the school rabbit?!



Cover design © HarperCollins Publishers Ltd 2019
Illustrations © Judith Kerr 2019
Photograph © Eliz Huseyin 2013

Spot the difference

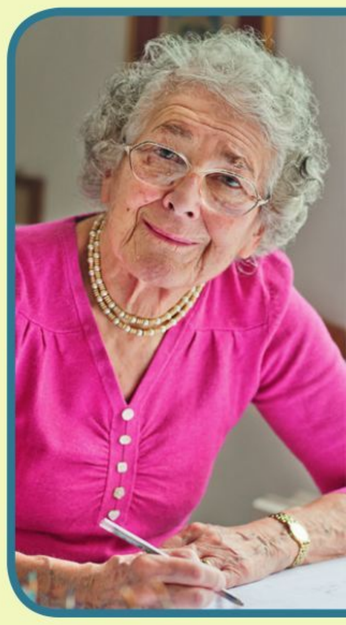
Can you find FIVE differences between these two drawings of Tommy and Snowflake?



Fun facts about rabbits!

1. When bunnies are happy, they '**binky**'. This means they hop in the air, twist their body and kick their feet!
2. Wild rabbits *don't* actually eat **carrots**! They're full of **sugar** so should only be fed to pets in small amounts.
3. Rabbits sometimes eat their own **poop**! They do this so they can absorb **nutrients** their bodies missed the first time around. Gross, but cool!
4. The complex **warrens** dug by wild rabbits can be as large as **tennis courts** and extend **3m** below the surface. They make lots of **entrances** so they can easily escape!

All about the author!

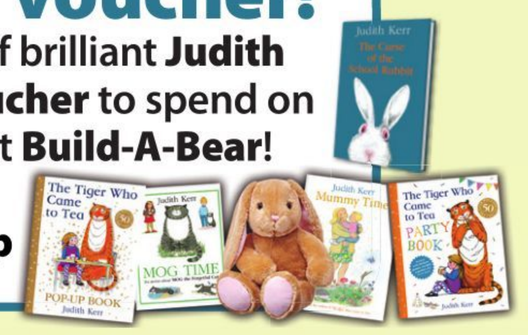


- **Judith Kerr** was born in **Berlin** in **1923** but escaped from **Hitler's Germany** with her parents and brother in **1933** when she was **nine years old**.
- She wrote and illustrated her first book ***The Tiger Who Came to Tea*** after telling the story at bedtime to her daughter and son.
- Judith loved **cats**, and wrote a picture book about her own cat **Katinka** called ***Katinka's Tail***.
- ***The Curse of the School Rabbit*** was her last book, written when she was **95**!

WIN!

A Build-A-Bear voucher!

We're giving away a bundle of brilliant **Judith Kerr books**, plus a **£100 voucher** to spend on your very own rabbit friend at **Build-A-Bear**!
To enter, head to
http://po.st/SchoolRabbitComp



Available wherever good books are sold!

ADVERTISEMENT

Olafur Eliasson: In real life

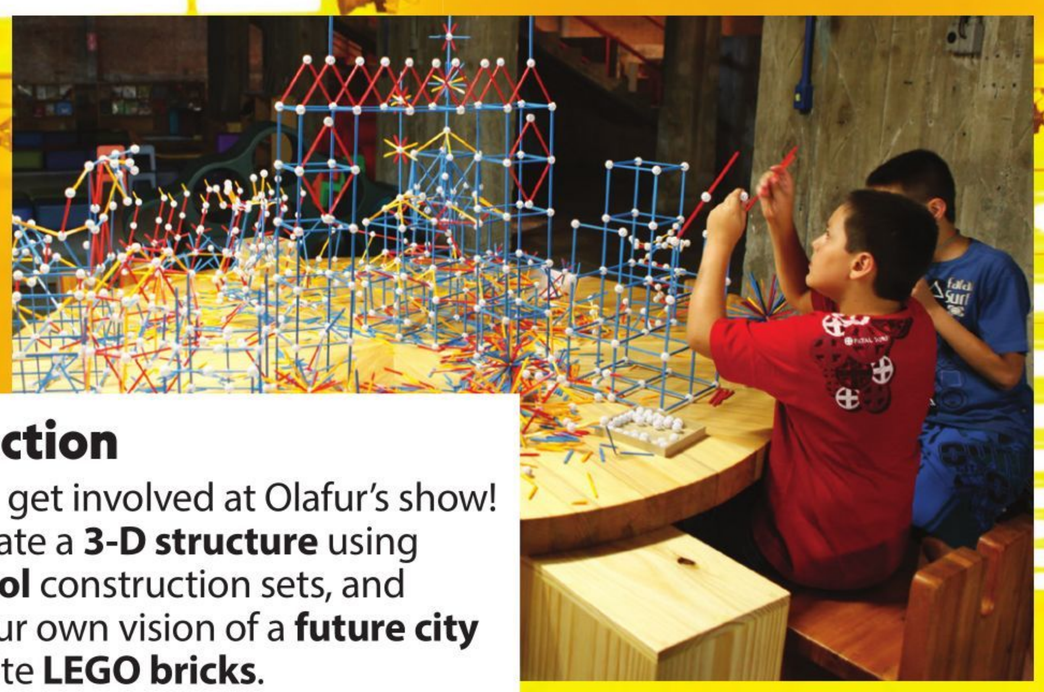
Under 12s go free!

Until 5 January 2020

There's an exciting new art show at London's Tate Modern. Prepare to engage all your senses on a journey through nearly 40 brain-bending works of art!

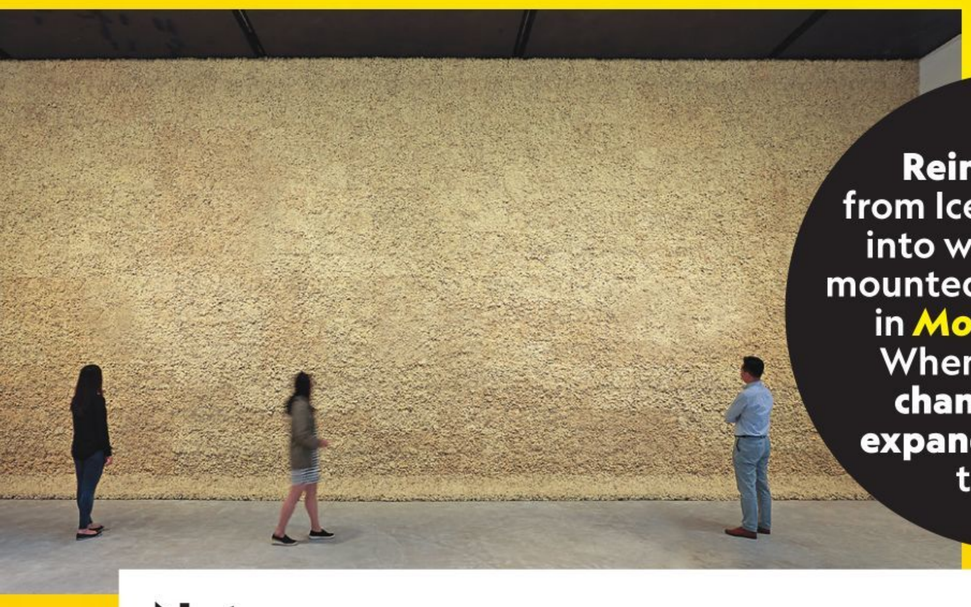
Icelandic-Danish artist **Olafur Eliasson** has created a multi-sensory, interactive extravaganza of experiences for his **Tate Modern** exhibition! Visitors can create **crazy colourful shadows**, travel through **shimmering kaleidoscopic tunnels**, wander around **fog-filled rooms**, and bathe in **eerie yellow light**. You can even play with **LEGO**. It's art – but not as you know it!

Let's take a closer look at some of the themes and works in the show…



Interaction

YOU can get involved at Olafur's show! Help create a **3-D structure** using **Zometool** construction sets, and build your own vision of a **future city** with white **LEGO bricks**.



Reindeer moss from Iceland is woven into wire mesh and mounted on the gallery in ***Moss wall 1994***. When watered, it **changes colour**, **expands**, and starts to **smell**!

Nature

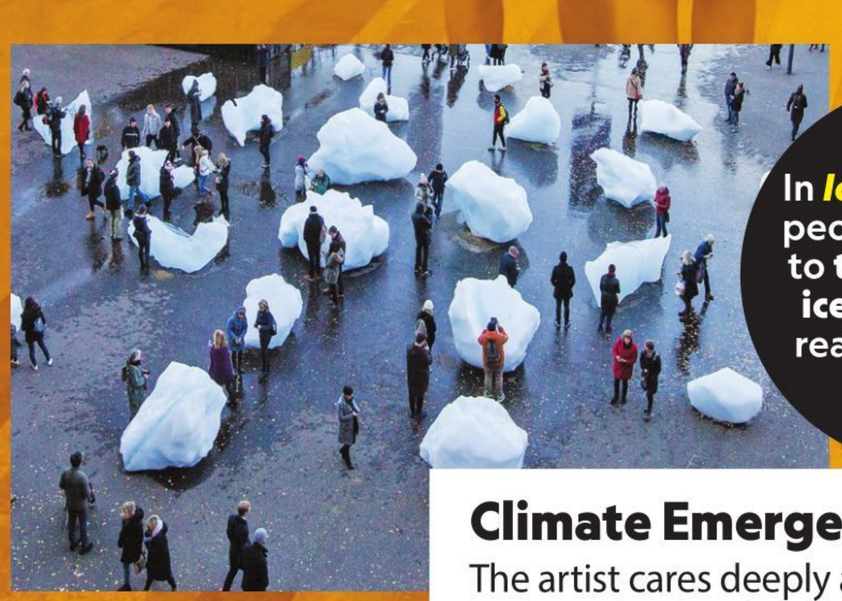
Olafur loves **exploring nature** in his artwork. He creates **indoor rainbows**, constructs **waterfalls** and installs **sculptures** made from **living lichens**.

How will YOU feel in ***Room for one colour 1997***, a space lit only with **bright yellow lamps**?

Your *spiral view 2002* is like a **giant kaleidoscope** you can walk through.

Geometry

Olafur designs cool **geometric structures** which **reflect light** in exciting ways.

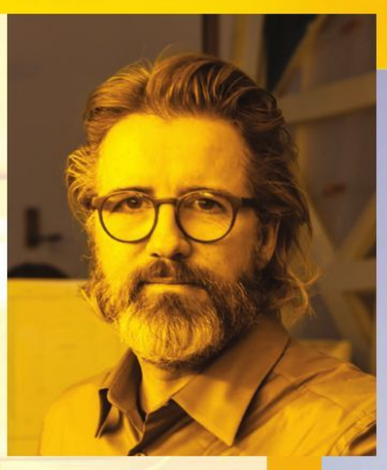


In ***Ice Watch 2014***, people were able to **touch age-old ice** and feel the reality of **global warming**.

Climate Emergency

The artist cares deeply about **climate change**. Last year he brought chunks of ice from the **Greenland ice sheet** to London to **raise awareness** of our **warming planet**!

Ask Olafur!



We put some questions to the intriguing artist…

Hi Olafur! Most galleries don't let people touch the artwork – but in parts of your exhibition, visitors can help *create* it! Can you tell us more?

You may not realise it, but every artwork is always waiting for you to finish it – it is nothing if you are not looking at it. ***Your uncertain shadow (colour) 2010***, for example, just looks like a light shining on a wall **if no one walks into the space**. But as soon as you **step into the light** you create a lot of **different coloured shadows on the wall** (see right). And this makes everyone in the room start to move around and even **dance** with their shadows and with each other.

Sounds fun! Many of your installations feature the colour yellow, with rooms bathed in yellow light. Why do you find this colour so interesting?

The **yellow lights** I use are actually **common street lamps** in some countries. Many people are used to seeing them but they don't realise how yellow they are until they see them indoors, in an art exhibition. It creates a really amazing effect: it reduces what you see to shades of **yellow**, **grey** and **black**. You can also see all of these details that you would not normally see. Then when you step out again, it's such a shock. I like that **people see the world differently** in these artworks, and start to think how much what they see depends on the light they see it in.

Din blinde passager (Your blind passenger) *2010*

One of your works features a tunnel full of thick fog. Why do you like to affect people's senses?

If you step into a space where you cannot see very well (right), then suddenly your **other senses become stronger**. You start to **hear**, **smell**, and **feel** things more intensely. You may even **think** about **what** you are experiencing while you are experiencing it. A little **confusion** can make you much more aware.

You are also inspired by nature. Why is it important for you to use nature in your work?

As human beings, we often assume that we are living **outside nature**. We forget that the **table we are sitting at is made of wood** and comes from nature, and that the **metal chair** is made from materials that were **dug up from the ground** and transformed and shaped. So when I use materials taken from nature you see them in a new light and ask yourself, **what is natural?**

Head to tate.org.uk/eliasson to book tickets and find out more!

Do you think art can make a difference when it comes to the climate emergency?

What art can do is **inspire** people to **take action**. But I think individuals can only do so much. It's up to **governments** and **businesses** to make the **big changes** that are needed. I am **hopeful** when I see how many **young people** around the world are taking part in **climate marches**, in the **Fridays for Future**, demanding that those in power address the **climate emergency**.

Us, too! You're half Danish, half Icelandic. How have these countries influenced you?

My interest in **light** goes back to **visiting my grandparents** in **Iceland** as a **child**. In the town where they lived there was a rule during the 1970s that everyone had to **stop using electricity** in the evenings to **conserve energy**. I remember sitting at the window watching as all the lights in town went out. After a few seconds, my eyes would adjust and I could see the **sky glowing** in the light of the **midnight sun**. In the summertime in Iceland, the sun almost never sets.

Amazing! What advice would you give to NG KiDS readers who want to be artists?

Children are often taught that there is a right way to make things – but this actually goes ***against* creativity**. Many people think that you have to study many years to become qualified to do something, but this is not the case with art. What I always tell students is that they do not have to wait to complete a degree to become an artist. **You already are an artist**.

It's hard not to dance in front of ***Your uncertain shadow (colour) 2010***. The artwork casts **your shadow** in **amazing colours**!

RESTAURANT TAKEOVER!

The **kitchen chefs** at Olafur Eliasson's **Berlin studio** have created a **special menu** for the **Tate Modern's Terrace Bar**, so visitors can enjoy the same **vegetarian**, **organic food** that his team eats.

WIN! A TRIP TO BERLIN!

Calling all artists! And that means **ALL** of you. We want you to **design a poster** for **Olafur's exciting new exhibition** at the **Tate Modern**. Your poster should be **inspired by the themes** in his work.

The winner will **fly to Olafur's studio in Berlin** with their family, where they will be given a **one-hour guided tour** with **lunch**, and their **poster will be displayed** at the **studio**! They'll also win an exclusive **Tate x Studio T-shirt** designed by Olafur Eliasson. Wow! One runner-up will scoop the T-shirt.

To enter, design your **poster** on a piece of **paper** or **card** no bigger than **A3**, and post it to us along with the coupon on page 55. Good luck!

Ts & Cs: The prize will also include flights and an overnight stay for a family of up to four people in Berlin during October 2019 half term. Entries will be judged by the NGK team and Tate Modern's Mark Godfrey, who is curating the exhibition of Olafur's work.

Ticket Prices: Under 12s go free. £5 for 12-16s. £5 for 16-25 year olds. Adult Price: £18 (£17 concessions)

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THE BIG PICTURE

NAT GEO KiDS'
image of the month

© Lestnica Production. www.lestni.ca

Slanting city

This mind-bending picture was created by a team of **Russian** designers, known as **Lestnica**. The photo is part of a series of brain-boggling images featuring gradually '**folding**' cityscapes, inspired by the **special-effects** used in **sci-fi movies**!

For this picture, special **drones** were kitted out with **hi-tech cameras**, which snapped **hundreds** of sweeping shots of the **Sagrada Familia** in **Barcelona**, **Spain**. The images were then stitched together digitally, the whole process taking a whopping **12 hours**! We think it was definitely worth the wait!

ADVERTISEMENT

GeoSafari® Jr.

Talking Globe™

Attention, travel fans – it's time to explore the world with this hi-tech interactive globe!

With the **GeoSafari® Jr. Talking Globe**, simply place the included **smart pen *anywhere*** on the spinning globe to hear more than **1,000 fun facts** about the places you've selected!

Explore the planet, locating **continents**, **countries**, **capitals** and major **cities**. Along the way you'll learn cool things about the **environment** and the different **animals** that live all around the world. You can even select **quiz mode** to test yourself on everything you've learned!

Hawaii was formed by the **lava** from **underwater volcanoes**. The Hawaiian islands are actually the **tops** of those volcanoes!

The **Arctic Ocean** is by far the world's **smallest**. Almost completely **covered in ice**, it sits at the top of the Earth with the **North Pole** at its centre.

Las Vegas is the biggest city in **Nevada, USA**. It glows with so many **neon lights** that it can be seen from **outer space**!

Asuncion is the capital of **Paraguay**. During holidays there, you may see women doing a '**bottle dance**'. Each dancer **balances** up to **ten bottles** on her **head**!

Talking smart pen!

OVER 10 hours OF AUDIO!

The voice of the globe is famous wildlife warrior Bindi Irwin!

MEASURE IT!

Discover the **distances** between **major cities** across the globe. Choose to hear the results in **miles**, **kilometres**, or **measured in silly ways**!

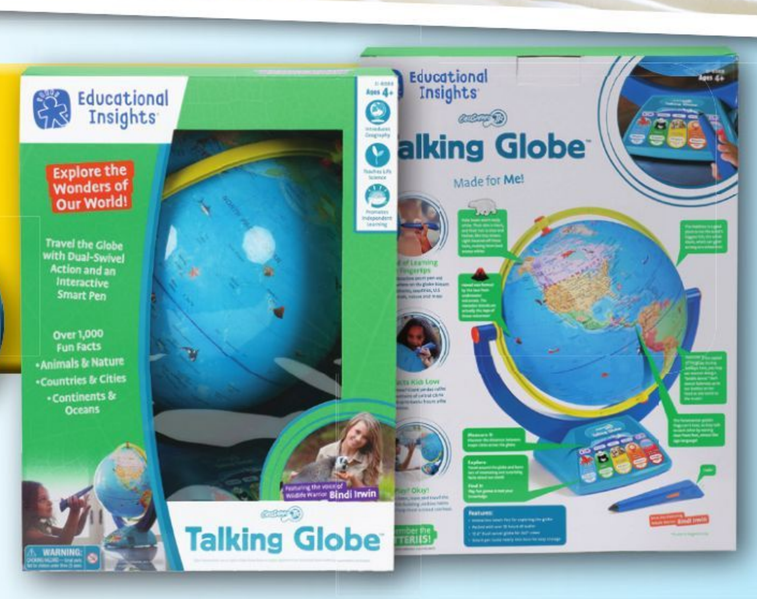
WIN!

We've got one **GeoSafari Jr. Talking Globe** up for grabs! To be in with a chance of spinning off with it, just answer this question…

Q Can you unscramble these letters to reveal an animal that spends up to 12 hours a day eating bamboo?

NIAGT DANAP

Enter on page 55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MINI HISTORIES COMIC

WORLD WONDERS!

MAX VISITS... CHICHÉN ITZÁ

This month, NG KiDS' fearless mouse, Max, zooms back in time to investigate an ancient city in Mexico!

Howdy readers!

This month I'm in Mexico, visiting the awe-inspiring Mayan city of Chichén Itzá!

Probably the largest and most important ancient Mayan City, Chichén Itzá sprang up 1,400 years ago with pyramids, awesome temples and crazy ball courts!

All of which, amazingly, are still standing today!

The Mayan civilisation began in Central America in around 2,000BC, with major cities like Chichén Itzá expanding between AD600-900. At its centre were the temples and rulers' palaces. In AD800 the fierce Toltec tribe invaded and built amazing monuments, such as the pyramid, 'El Castillo', and the 'Temple Of Warriors'.

Being brilliant mathematicians and eager astronomers, the Mayans constructed the pyramid, El Castillo, around the movement of the Sun and the stars.

Acting as a calendar, El Castillo had four sets of 91 steps leading up to the top big step, totalling 365 steps - the exact number of days in a year!

Constructed from local limestone, The pyramid temple represents 'Snake Mountain' - a mystical place in Mayan folklore.

The Temple Of Warriors had columns decorated with carved warriors. It contained beautiful murals showing jaguars, eagles and tigers!

Mayans loved their football-like game, Pok-A-Tok. This ball court in Chichén Itzá is 166 metres long!

Originally, the buildings were painted in bright colours!

Some experts believe that the winners were sacrificed to the gods. Others, that it was the losers. Uh-oh! I thought sport was supposed to be fun!

New rulers named themselves after feathered serpent god, Kukulkan, who appeared twice a year cast as a shadow on the pyramid during the equinox (when day and night are equal lengths).

AAIIEE!

Grr!

The Mayans built temples on top of temples and there's an older one within El Castillo! Inside hidden chambers, archaeologists found a bright red jaguar throne for the Kuhul Ajaw (priest). Mayans worshipped jaguars and dressed up as them, and depicted them in their murals!

Chichén Itzá famously has an obsevatory for looking at the stars. Here the Mayans carefully planned their calendars in long cycles, which many mistakenly believed foretold the end of the world in 2012!

Aargh! I've run out of paper for making my calendar!

Oh no! It's the end of the world!

Enemies (and er... football teams) were cast into the nearby 'cenotes' (big sink holes) as a sacrifice to the gods. Once thrown in, there was no climbing back out!

YIKES! MY WATCH!

Plop!

Archaeologists have found hundreds of skeletons and treasure at the bottom of cenotes!

That these magnificent structures have survived years of civil war and Spanish conquests is a tribute to Mayan ingenuity and construction!

Now that Chichén Itzá is protected as a World Heritage site, I would definitely say it's a step in the right direction!

Illustration and words: Gary Northfield.

JUNIOR EXPLORERS' CLUB

WILDLIFE WATCH

Hi NG KiDS!
I'm passionate about **animals** and **conservation**, so I set up **The Wildlife Club** at my school. Each week me and my friends research **rare** and **endangered creatures** from all over the world! So far we've learned about all kinds of **mammals**, **reptiles** and **birds**, such as **dragon snakes**, **Siberian tigers** and **kakapos** (a type of parrot from **New Zealand**). But my favourite animal we've learned about is the **serval**, a wild cat found in **Africa**!
Otis, 7
● It sounds like you learn about lots of fascinating animals in The Wildlife Club, Otis!

HA HA LOLZ HA HA

Q What do you call a really rude bird?
A A mockingbird!
Oweena, 10

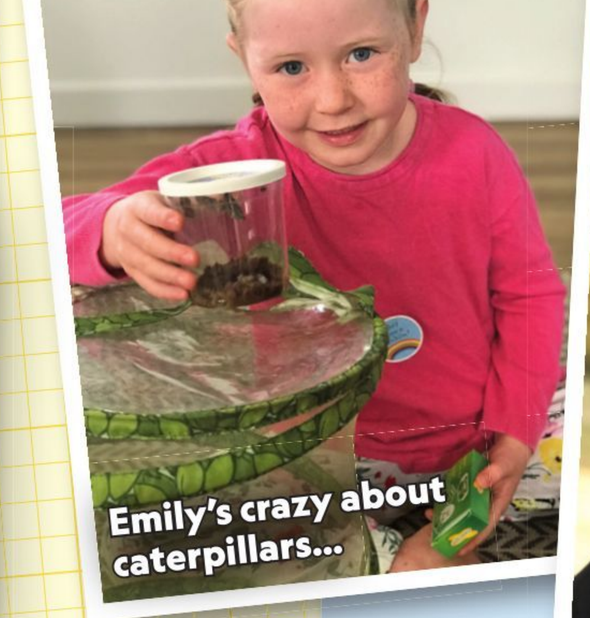
HA HA HA HA

ART ZONE!

I made this **sculpture** of a **kingfisher** eyeing a fish to catch while perching on a branch! The model is made of **wax strings**, and for the eye I used a **Hama Bead**. The grass is made of **green tissue paper**. I hope you like it!
Robyn, 8
● We love it, Robyn. Thanks for sharing it with us!

BRILLIANT BUTTERFLY!

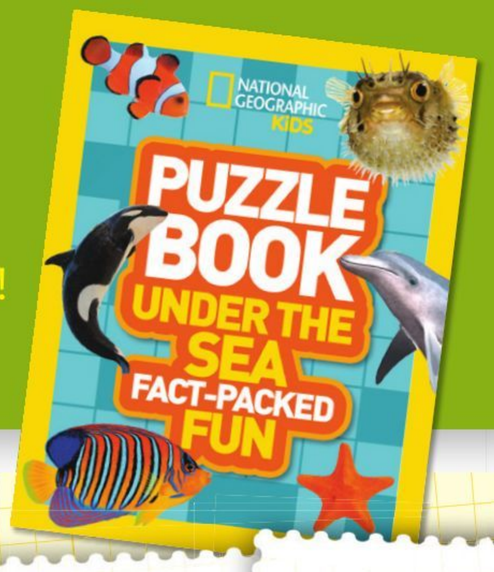
Hey NG KiDS,
This is me with my brilliant **butterfly kit**. In the first picture (below, left), I'm holding **five caterpillars** in a cup, just as they were becoming **chrysalides**. And in the second picture you can see one of the fully-formed, **beautiful butterflies** in my hand. It was super-exciting to see the transformation!
Emily, 5
● Wow, that's amazing, Emily!



We want to hear from YOU! Send in your artwork, jokes, craft pics and pet photos; tell us about your wildlife sightings, hobbies and interests, and share your opinions! Email **kids@ngkids.co.uk** or write to the address on page 3. A selection will be printed on this page. Every reader on these pages will receive a copy of ***Puzzle Book Under the Sea*** from NG KiDS Books!

● **Available at harpercollins.co.uk**

We're sorry, but we won't be able to return your art or photos.



Rosie the Jack Russell, sent in by **Larissa, 10**

COVER STAR!

POSTCARD FROM...

Wales

Hi NG KiDS!
During the May half term holiday, I went to ***Wales*** *near the* ***Brecon Beacons*** *with my family. We went* ***glamping*** *for the first time. Our* ***yurt*** *(a kind of* ***tent****) was high up, nearly as high as the* ***mountains*** *that surrounded us! Me and my sister,* ***Elin****, went* ***pony riding*** *for the first time, too. I saw a* ***hare*** *and managed to get some photos of it! I hope you like my pictures from our holiday!*
Thomas, 7

● They're great, Thomas. Looks like you had fun!

ECO WARRIORS

Hi NG KiDS!
On **Earth Day** (**22 April**) my family and I decided to go on a **hike** with our friends. Me (left), my **sister Julia** (middle) and our friend **Halszka** (right) went to **Epping Forest**. Since it was Earth Day, Halszka and her mum brought over some **plastic bags**, and we collected **rubbish** other people had left behind. We had a **competition** to see who could collect the most! We walked about **10km**, collecting litter along the way. It was great fun protecting the environment!
Szymon, 12
● Amazing! What great green work, Szymon!

HOBBY TALK

My name is **Misho**. I love **reading** and learning about **science**, **history**, **palaeontology**, **dinosaurs** and **outer space**. I love **exploring new places**, too! During the half term holidays, my mum, dad and I visited many interesting **historic sites**, **castles** and **museums** all over the country. This picture was taken at the **Yorkshire Museum**, where we had a fascinating day out!
Misho, 7
● Did you manage to read all of those books, Misho?!

IN IT TO WIN IT!

Enter on **page 55** or online at **natgeokids.com**

WIN! SCRUFF-A-LUVS FAMILIES

Oh no, mummy **Scruff-a-Luv** is lost and abandoned, looking for a home for her and her **babies**! But how many is she hiding? Wash her to discover if she has **twins** or rare **triplets**. Then **warm their hearts** to see whether she has boys, girls or both.

Rescue, **wash**, **dry** and **groom** this adorable family and you'll reveal **ten surprises** along the way, including **accessories** for the whole gang. Can you help them live *fluffily ever after*?

Seventeen winners will rescue a **Scruff-a-Luvs Families set**.

● **Visit scruff-a-luvs.co.uk to find out more**

For every Scruff-a-Luvs family adopted, Scruff-a-Luvs will donate money to the RSPCA to help real animals find their 'furever' homes.

Q What do you call a family of lions?
a) Glee **b)** Joy **c)** Pride

WIN! MAPED HELIX STATIONERY

Get your creative juices flowing during the summer with this bumper bundle of stationery prizes from **Maped Helix**.

There's the **Color'Peps Jungle Innovation felt pen set**, a smart and fun solution to ensure you **never lose your pen caps again**, and a selection of **superhero paints** that let you create awesome art in a range of bright colours!

Also included are the **Color'Peps Magic pens** with cool colour-changing ink, and **Color'Peps Glitter pens**, perfect for adding magic sparkle to your pics!

Ten arty readers will win this super **stationery bundle**.

● **Head to mapedhelix.co.uk for more *ink*-credible stationery**

Q Which of these is a real type of pen?
a) Fountain pen
b) Stream pen
c) Waterfall pen

WIN! TICKETS TO *THE COMEDY ABOUT A BANK ROBBERY!*

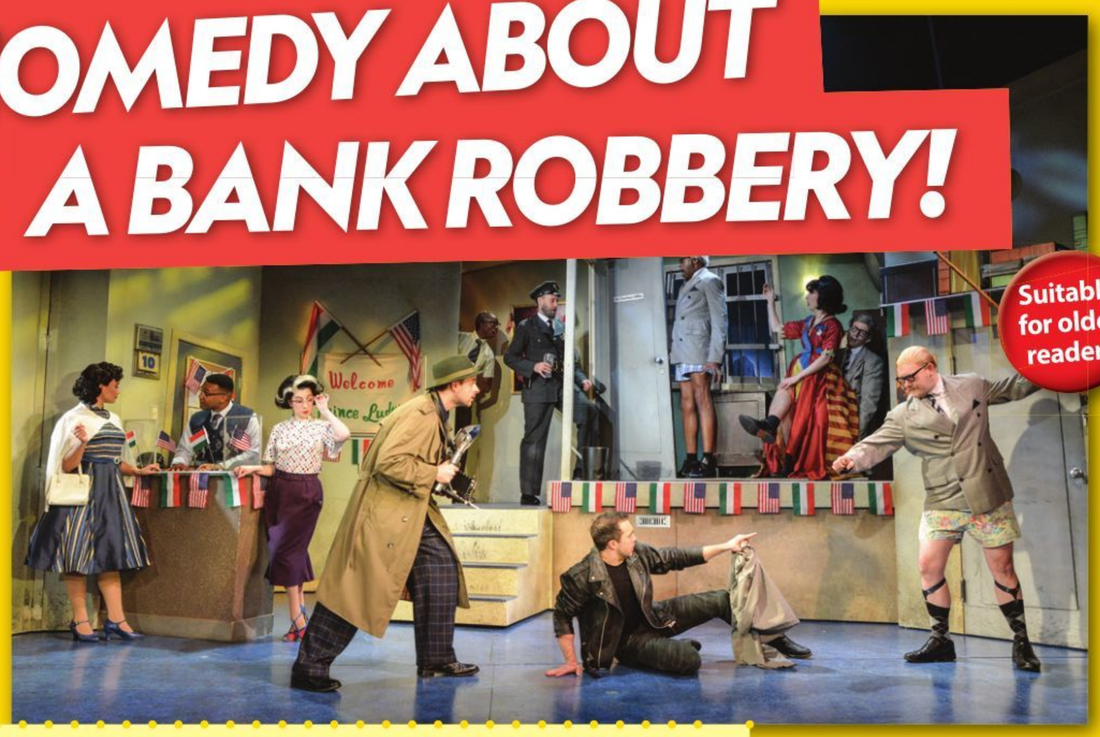
Get ready for a **theatre show** that it would be *criminal* to miss – ***The Comedy About A Bank Robbery***.

It's summer 1958 and **Minneapolis City Bank** in the USA has been entrusted with a **priceless diamond**. But an **escaped prisoner** is desperate to steal the gem with the help of his screwball sidekick, trickster girlfriend and the maintenance man.

Still, in a town where **everyone's a crook**, no one can be trusted – so who will end up bagging the jewel?

One lucky reader will make off with a **family ticket** to this hilarious comedy caper at the **Criterion Theatre in London**, plus **£100** towards travel. **Two** runners-up will receive a family ticket. Dynamite!

● ***The Comedy About A Bank Robbery* is playing at the Criterion Theatre in London until May 2020. To read about the show and book tickets, scarper over to bankrobberycomedy.com**



Q Which of these is a type of thief?
a) Donkey Burglar **b)** Cat Burglar
c) Dog Burglar

Ts & Cs: Family ticket is four tickets, min one adult. Valid for Tuesday – Thursday performances, until 30 September 2019. Subject to availability. No cash alternative. Travel not included for runners-up.

ENTER ALL COMPS ON PAGE 55!

70 chances to win!

WIN!

SCRUBBINGTONS GOODIES

Does anything beat mucking around in the great outdoors, getting a little bit, well, mucky?

No matter how dirty you get, **Scrubbingtons** has your back (and your legs and arms, too!). Their range of **magically foaming washing products** is designed especially for adventure-loving kids like you.

Made completely from **natural stuff**, they can be used even if you have **sensitive skin**. They also contain **aloe vera** to help soothe grazed knees or sunburned shoulders, and **deodorant** to prevent nasty pongs. *Lather*-ly!

Fifteen mucky pups will get **all five products** in the **Scrubbingtons** range.

● Available from **Tesco** and **Ocado**

Q Can you unscramble these letters to reveal a product that you'd wash your hair with?

HAMOOPS

WIN!

GRAVITRAX KITS

Experience the awesome power of **gravity** with these **Gravitrax** kits from **Ravensburger**!

The clever system lets you **build crazy courses** to set your **gravity spheres** rolling. Use the **blueprints** to **build the tracks** exactly as they're shown on the boxes, or let your **imagination** run wild as you go **freestyle** and design your own topsy-turvy tracks. You can also add expansions to make your tracks even more exciting!

Five winners will get a **Gravitrax starter-set** plus **three awesome expansion packs – Trax**, **Looping** and **Building**.

● Zip over to **smythstoys.com** to learn more!

Q Who is famous for discovering gravity?
a) Isaac Newton
b) Nikola Tesla
c) Charles Darwin

WIN!

CLARE BALDING BOOK BUNDLE

In ***The Racehorse Who Learned to Dance*** by author **Clare Balding**, **Charlie**'s best friend **Polly** is recovering from an **accident** that left her almost **paralysed**. But Polly has a real **talent with horses** – and she and Charlie are determined not to let it go to waste. Can the two best friends, together with Charlie's brilliant horse **Noble Warrior**, find a way to make Polly's **equestrian dreams** come true?

One lucky reader will trot off with a copy of ***The Racehorse Who Learned to Dance*** plus the **two other books** in the series – ***The Racehorse Who Wouldn't Gallop*** and ***The Racehorse Who Disappeared*** – and a special **rucksack**. **Nineteen** runners-up will get all three of Clare Balding's books. A-*neigh*-zing!

● Gallop over to **penguin.co.uk/puffin** to find out more about these horsey adventures!

Q What is the hair that grows on a horse's neck called?
a) Mane
b) Sane
c) Pane

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Experience a feat of human achievement that's truly out of this world in NG KiDS' awesome book ***To the Moon and Back***.

Join famous astronaut **Buzz Aldrin** and the **Apollo 11** crew as they embark on their mission to the Moon! See the **Saturn V rocket** as it **lifts off** the launchpad, marvel at Buzz Aldrin's **first-hand account** of the Moon landing, and experience the thrill of the **Eagle touching down** on the lunar surface!

Through vivid **photos** and elaborate **paper-engineering**, you'll learn all about the ground-breaking Apollo 11 mission. You'll even be able to **build** your very own **Apollo 11 Lunar Module**!

The first 50 new NG KiDS subscribers this month will receive a copy of ***To the Moon and Back***!

● Available from **natgeokidsbooks.co.uk**

Gift worth £25

Please note, subscription copies of Nat Geo Kids magazine do not include covermounted gifts but do include collectable fact cards.

* The first 50 people to subscribe to the magazine will receive the above free gift, subject to availability. Thereafter, all new subscribers to the magazine will receive one free, random stock gift. Offer ends 15 October 2019. For full prices and Ts&Cs please visit **natgeokids.com**

Bet You Didn't Know!

8 cool facts about wild cats

Celebrate **International Tiger Day** on 29 July!

1 **Tigers** can eat more than **35kg** of meat in one meal—that's like eating **155 sirloin steaks!**

2 Cats see **SIX times better** at **night** than **humans.**

3 A **big cat's sense of smell** is **20 times** stronger than a **human's.**

4 There are **38** species of **wild cats** on the planet.

5 Each species of **big cat** has a **unique coat** for **camouflage.**

6 The **Bengal tiger** is **India's** national animal.

7 **Cheetahs** can **accelerate faster** than some **race cars.**

8 **Pumas** are also called **mountain lions, panthers** and **cougars.**

Colette3 / Shutterstock

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—MARIAM, AGE 11

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UNDER THE Stars

NATIONAL GEOGRAPHIC

FUN STUFF

GAMES, LAUGHS, AND LOTS TO DO!

SPOT THE DIFFERENCE

Can you find TEN differences between these two ocean scenes?

Answers on page 56.

Illustration © Getty Images UK

WHAT IN THE WORLD?

RING TOSS

These images show cropped views of items with ring shapes. Unscramble the letters to identify what's in each picture. **Bonus:** Use the yellow letters to help you answer the joke below…

Answers on page 56

SLAKLTBBAE TNE

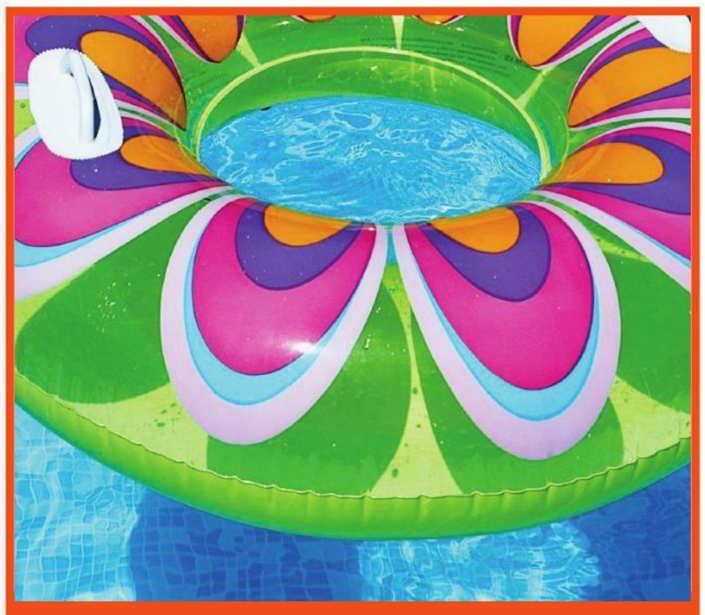
LAUH-OPOH

LNPEIPEAP

RETE KTNRU

TODHNGUU

YKE IGNR



WMSI GIRN

ODDRRATBA

UNRAST

QUESTION: What did the triangle say to the circle?

ANSWER: __O__'___P___N_____S

Top row (left to right): Corbis; Max Power / Corbis; Supapics / Alamy.
Middle row (left to right): Zoom (192) Time / Imagemore / Getty Images; Demkat / Shutterstock; Corbis / Jupiterimages.
Bottom row (left to right): © iStock / ViewofAmelie; Simple Stock Shots; hideto999 / Shutterstock.

THE BIG BLUE CROSSWORD

Hit the beach and dive into this tricky ocean puzzler. How much do you know about our seas? Answers on page 56.

ACROSS

1 Smooth stones found on some beaches (7)
3 Floating sea marker (4)
5 Largest and deepest ocean (7)
7 Body of water with a colourful name (3, 3)
12 Predator with tool-shaped face (10, 5)
13 White dolphin-like marine mammal. ___ whale (6)
15 Percentage of the Earth covered in sea water (7-3)
17 Equine-like fish (8)
19 Large, fast sea fish. Sometimes eaten with sweetcorn and mayonnaise (4)
20 Pink-fleshed fish that returns to fresh water to spawn (6)
22 Gives oceans their salinity (4)
24 Oily sea fish, smoked or eaten as paté (8)
25 Mythical squid-like sea monster. Appears in the *Pirates of the Caribbean* films (6)
27 Slippery as an ___ (3)
28 Method of fishing that drags giants nets along the sea floor, damaging habitats. Bottom ___ (8)

DOWN

2 Predator with eight arms and two tentacles (5)
3 Big foamy sea wave that hits the shore (7)
4 Grains found on beaches and deserts! (4)
6 Turtles push themselves around with these (8)
8 One of Earth's oldest animals. Can be used to wash with (6)
9 Large crustaceans with mighty claws (8)
10 World's largest mollusc. Lives on seabed (5, 4)
11 Massive big-mouthed fish. Filter feeder (5, 5)
14 Natural satellite that controls the tides! (4)
16 Boss of a ship (7)
18 Chip-stealing seabird (7)
21 Furry mammal that likes to float on its back and hold hands. Sea ___(5)
23 Miserable-looking deep-sea creature (8)
26 Seaweed that grows in underwater forests (4)

Illustration © Getty Images UK

FUN STUFF

MAKE IT

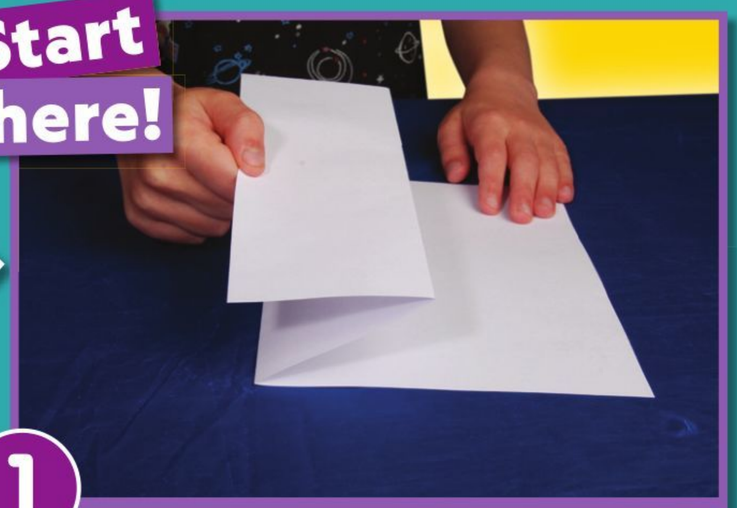
FOLD-OUT F

Transform a cute fish into a ferocious sea-beast with this funny craft. *Jaw*-some!

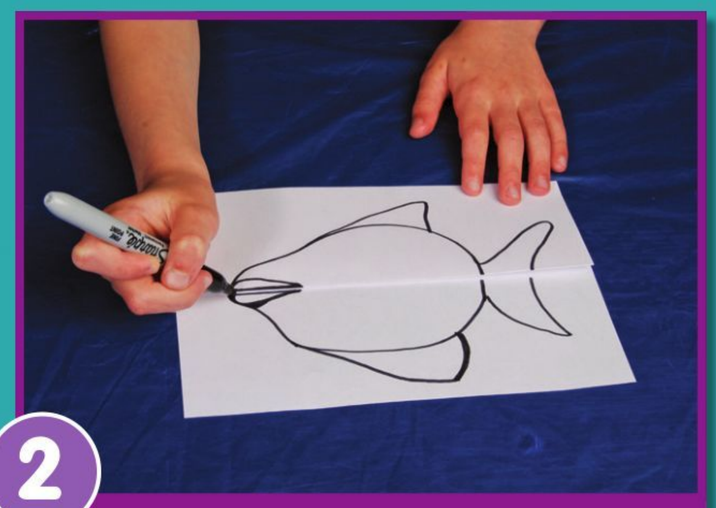
What you'll need

- A4 Paper
- Black marker pen
- Colouring pens

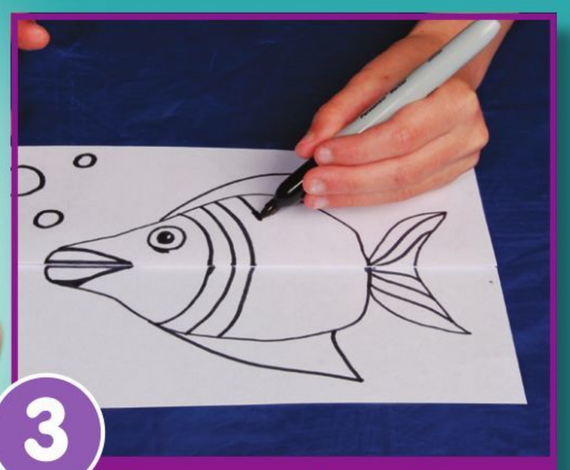
Start here!



1 Fold a piece of A4 paper in half. Then fold the top half up so the bottom edge meets the folded edge, as shown.



2 Draw out a fish shape so the fold is in the middle of the picture.



3 Draw a mouth, making sure the middle is exactly on the fold, and add eyes, stripes and other details.

4 Unfold the paper and draw in some ferocious teeth. Join all the lines in the middle. You could even add a little fish between the jaws.

TOP TIP
Draw your design in pencil first to make sure you're happy with it.

5 When you've joined up all the lines, colour in your picture. Now fold it open and shut so it looks like the mouth is opening and closing!

TOP TIP
You could try this technique with lots of different creatures or people. Email us your pics!

Photos: Valerie Rowles. Thanks to Iris.

FISHY!

Get Experimental!

GIANT BUBBLE WAND!

1 Make **bubble mixture** by adding **100ml of washing up liquid** to **one litre of water**. You can add **two tbsp** of **glycerin*** if you want to make the bubbles stronger.

2 For the wand, you'll need **two wooden spoons** (or sticks), a **2m-long piece of string**, and a **weight**, such as a **key**. Tie the **end of the string** to one **stick** and **thread the key** on so it's about a **third** of the way down the string.

3 The aim is to form a **triangle shape** with the string, so tie the string to the second stick around **two-thirds** of the way along. Complete the triangle by tying the end of the string to the first stick.

4 Dip the wand into the **mixture**, then **open it out** as you **walk slowly backwards**. Giant **bubbles** should form!

Blow your giant bubbles **outside** so you don't stain furniture!

What's going on?

Blowing a **bubble** is a bit like **blowing up a balloon**. But instead of a **skin of rubber**, soap bubbles have a skin made out of **soapy water**. As you blow into it, you **stretch the skin of soapy water**. This puts air **inside** the soapy skin which becomes **trapped** when the **skin closes**, forming a **bubble**.

Even though your **bubble wand** is a **triangle shape**, you *don't* get **triangular bubbles**! That's because the **soap film** is always **pulling inwards** and the **air inside** is **pushing outwards**. These **forces** will always **exactly balance**, making the final shape **round**. Cool!

This fun home science experiment is from our pals at the **Royal Institution**. Check out more cool activities at **rigb.org/families** and head online to book a place on the RI's popular **Summer School** workshops!

* Available in pharmacies.

COMPETITION ENTRY COUPON

Send us your entries by 29 August 2019

Just tick the box of any competitions you want to enter!

PAGE 8-9 WHAT'S UP?

***Dora and the Lost City of Gold* goody bags**

Dora speaks Spanish. What's the Spanish word for grandma?
Abuela ☐ **Ebola** ☐ **Abdulla** ☐

***Uglydolls* goody bags**

Which real-life pop star plays Moxy the Uglydoll ?
Kelly Clarkson ☐ **Jeremy Clarkson** ☐ **Theresa May** ☐

***Playmobil: The Movie* goodies**

Where were Playmobil toys invented? **Denmark** ☐ **Germany** ☐ **India** ☐

***The Angry Birds Movie 2* goody bags**

Before it became a movie and cartoon, what was Angry Birds?
Range of toys ☐ **Type of sweets** ☐ **Smartphone game** ☐

Book bundle

Which of the following is NOT an Ancient Wonder?
The Eiffel Tower ☐ **The Hanging Gardens of Babylon** ☐
The Lighthouse of Alexandria ☐

PAGE 10 YOU WON'T BELIEVE THIS

Adam Baron book bundle

Cymbeline is named after a character created by which writer?
Enid Blyton ☐ **J.K. Rowling** ☐ **William Shakespeare** ☐

PAGE 27 LEGO FRIENDS SEA LIFE

LEGO Friends Sea Life sets

What are groups of sea lions called?
Colonies ☐ **Armies** ☐ **Communities** ☐

PAGE 33 THE BRIGHT COMPANY

Custom-made pyjamas

Don't forget to download the template and send us your design

PAGE 38-39 TATE MODERN

Trip to Berlin, studio visit and T-shirt

Don't forget to include your poster (no larger than A3)!

PAGE 42 GEO SAFARI

Talking Globe

Unscramble these letters to reveal the animal… **NIAGT DANAP**

PAGE 46-47 WIN IT!

Scruff-a-Luvs Families

What do you call a family of lions? **Glee** ☐ **Joy** ☐ **Pride** ☐

***The Comedy About A Bank Robbery* tickets**

Which of these is a type of thief?
Donkey Burglar ☐ **Cat Burglar** ☐ **Dog Burglar** ☐

Maped Helix stationery

Which of these is a real type of pen?
Fountain pen ☐ **Stream pen** ☐ **Waterfall pen** ☐

Scrubbingtons goodies

Unscramble these letters to reveal a hair wash product… **HAMOOPS**

Gravitrax kits

Who is famous for discovering gravity?
Isaac Newton ☐ **Nikola Tesla** ☐ **Charles Darwin** ☐

Clare Balding books

What is the hair that grows on a horse's neck called?
Mane ☐ **Sane** ☐ **Pane** ☐

PAGE 58-59 THE LOST TIDE WARRIORS

Signed books

Arranmore is off the coast of which island?
Ireland ☐ **Isle of Man** ☐ **Shetland** ☐

Winners will be chosen at random from correct entries. GOOD LUCK!

OVER TO YOU!

Your chance to tell us what you think

What made you buy NG KiDS this month?

- ☐ If you subscribe, please tick this box
- ☐ The cover photo (dolphins)
- ☐ 275 Prizes Inside!
- ☐ Dolphin Rescue!
- ☐ Ocean Special!
- ☐ No Plastic Bag!
- ☐ 5 Crazy Questions Answered!

What's the best thing about this issue?

.....

What's your least favourite thing about this issue?

.....

Have you taken part in a climate change event? If so, what was it?

.....

WRITE TO US!

Do YOU want to appear on our Junior Explorers' Club pages? Ask your parent or guardian to email your letters, drawings and photos to us at **kids@ngkids.co.uk** or post them to the address below – and we could print them in Nat Geo Kids!

YOUR DETAILS!

Name ..... Date of birth .....

Address .....

..... Postcode .....

If you are under the age of 13, please ask a parent or guardian to complete this section:

Parent/guardian's name .....

Parent/guardian's signature .....

Telephone .....

Email .....

I acknowledge my child's participation in entering these competitions, the reader survey and/or the JEC page.

We like to stay in touch with our readers to tell them about all of the latest cool offers and awesome news from Nat Geo Kids. We won't share your information with third parties – unless you've won a comp!

- ☐ Ask your parent or guardian to tick this box if they're happy for us and prize providers to contact you regarding comp entries and your appearance in the mag
- ☐ Ask your parent or guardian to tick this box if they'd like to receive our email newsletter

Cut along the dotted line and send this entry coupon to: NG KiDS Competitions August 2019 issue, Third Floor, 12-14 Berry Street, London, EC1V 0AU

Hurry – the closing date for entries is 29 August 2019!

National Geographic Kids competitions are open to residents of the UK, Eire and the Channel Islands, except employees of Creature Media Ltd, National Geographic Society, and their families, or any associated companies. Entrants to National Geographic Kids contests must be 16 or under. No purchase necessary. Only one competition entry per person. Winners will be the first correct entries drawn after the closing dates. The editor's decision is final. No responsibility can be taken for entries lost or damaged in transit. A list of winners will be available by contacting National Geographic Kids no earlier than six weeks (unless otherwise stated) after the close of the competition. Only the surname and county of the winners will be disclosed. Prizes subject to availability. No cash alternative for any prizes will be offered. Winners may be required to partake in media activity relating to the competitions. We will only share winners' personal details with third parties if they have won a competition, in order for your them to receive their prize. These details are to be used for prize-giving only and not marketing purposes. For full details of our privacy policy, please go to **natgeokids.com/privacy**

FUN STUFF ANSWERS

MYSTERY LADDER! (page 10)

The word is **VERONIQUE**

CYMBELINE SEARCH! (page 10)

Igloo is hidden **10** times

TREASURE HUNT (page 26)

B leads to the treasure

MISSING PIECE (page 26)

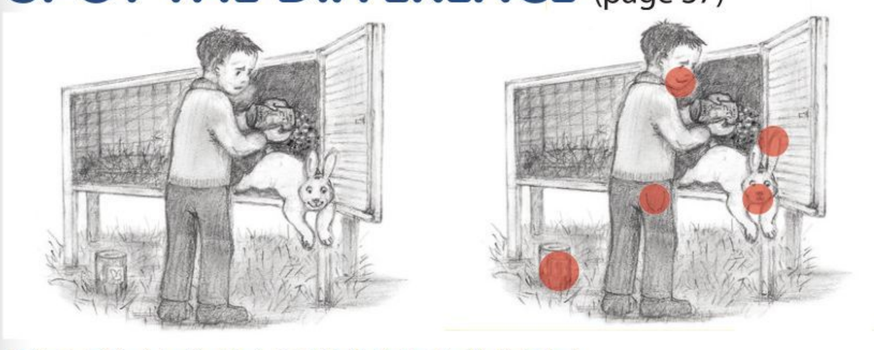
2 is the missing piece

MIA MATCH (page 26)

2 and **5** are the same

SEARCH & FIND (page 26)

SPOT THE DIFFERENCE (page 37)

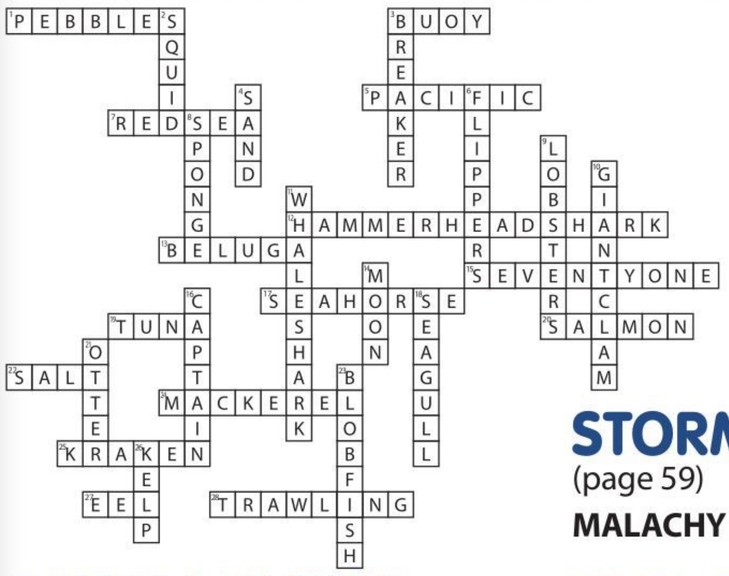


SPOT THE DIFFERENCE (page 51)

WHAT IN THE WORLD (page 52)

Top row: BASKETBALL NET, HULA-HOOP, PINEAPPLE.
Middle row: TREE TRUNK, DOUGHNUT, KEY RING.
Bottom row: SWIM RING, DARTBOARD, SATURN. **Bonus:** YOU'RE POINTLESS.

THE BIG BLUE CROSSWORD (page 53)



STORMY SECRETS (page 59)

MALACHY is not in the grid

CONCH QUEST! (page 59)

There are **15** shells

FIND FIONN! (page 59)

Fionn is hiding in square **E3**

NATIONAL GEOGRAPHIC KiDS

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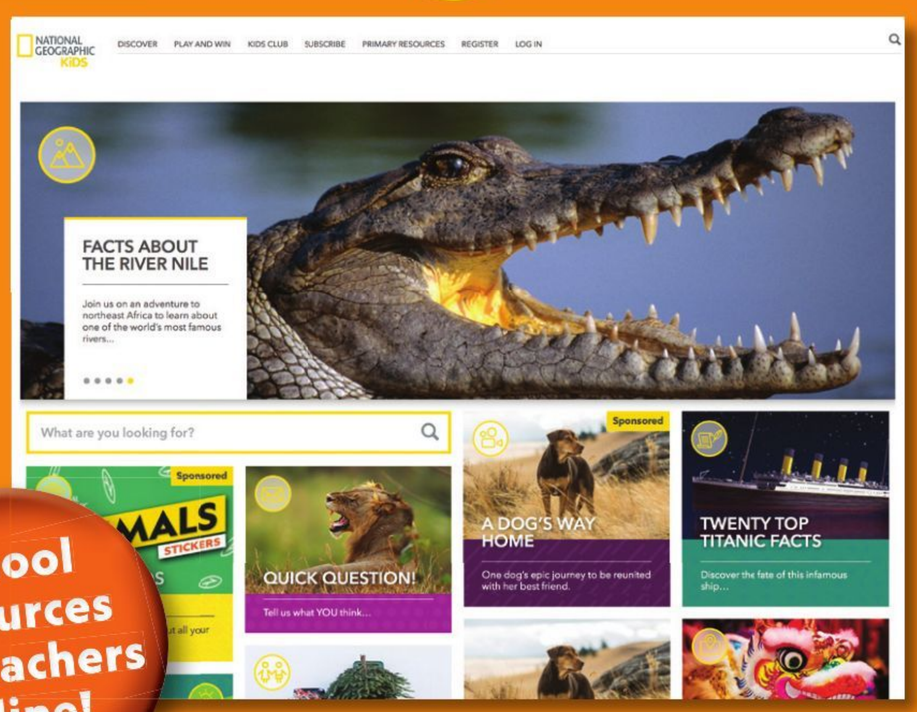
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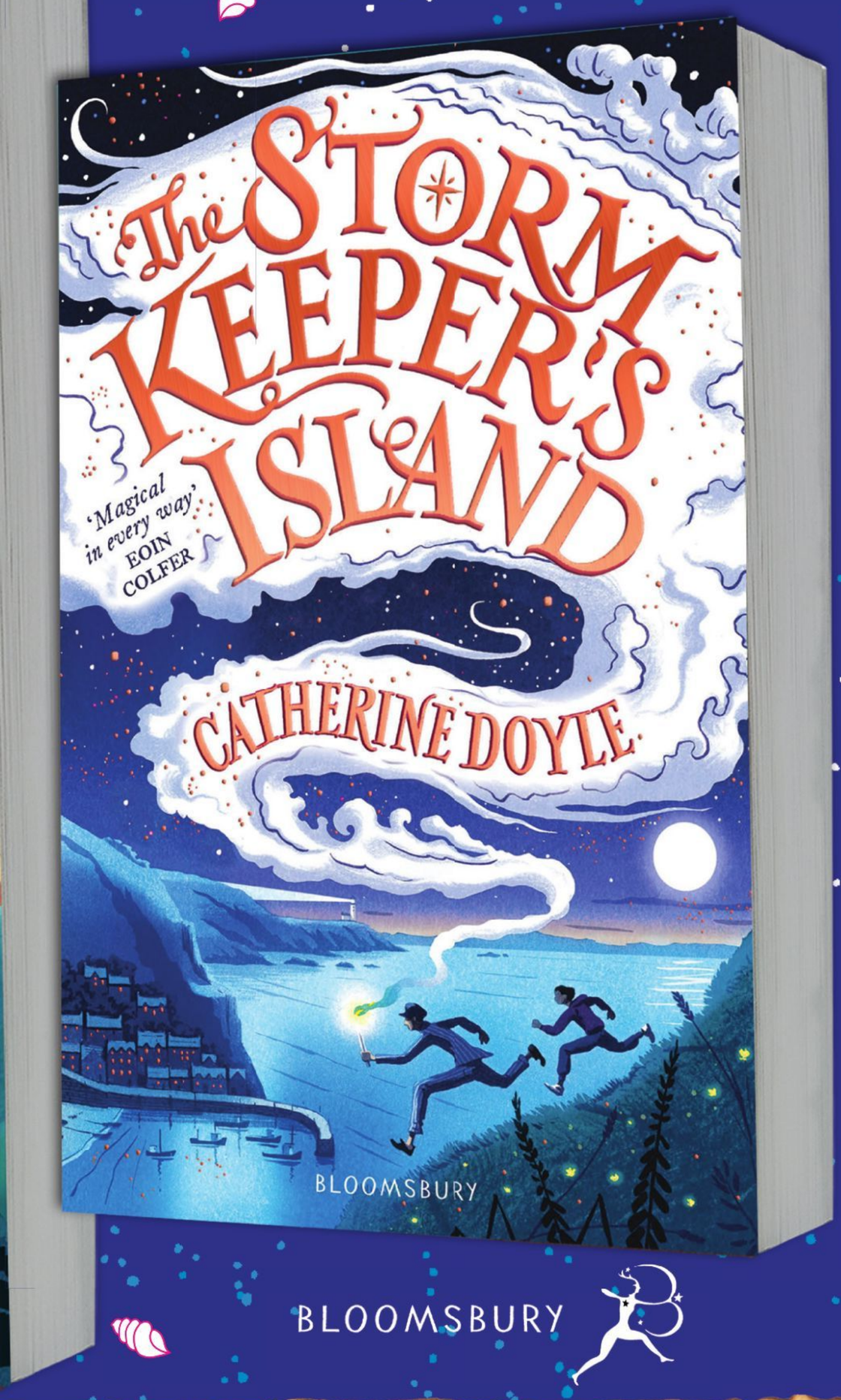


Conch quest!

In ***The Lost Tide Warriors***, Fionn has to find a **conch shell** in order to summon the **army of Merrows.** How many conch shells can you find on these two pages? (Don't count the large one here.)

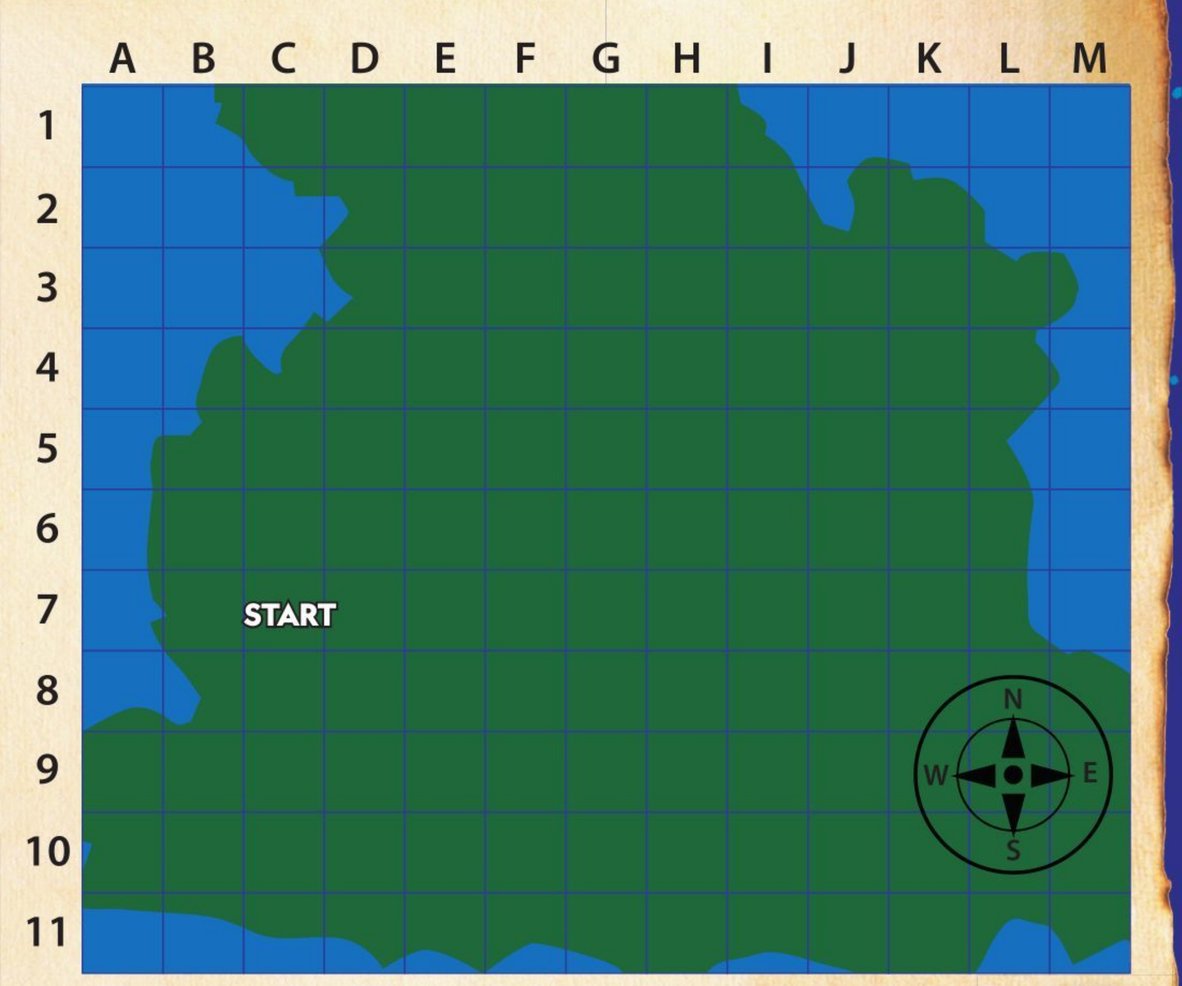
Answers on page 56

Stormy secrets!

Which **one** of the following characters and places from ***The Lost Tide Warriors*** is NOT hidden in the grid below?

● ARRANMORE ● DAGDA ● FIONN
● IRELAND ● MALACHY ● MERROWS
● MORRIGAN ● SAM ● SHELBY
● SOULSTALKERS ● STORMKEEPER ● TARA

E	M	M	E	R	R	O	W	S	V	D	S
N	S	A	D	M	X	P	H	X	C	O	D
D	A	H	S	G	L	G	N	Y	U	T	A
N	E	B	E	M	F	A	L	L	A	W	G
A	G	R	K	L	G	E	S	F	N	Z	D
L	P	V	O	I	B	T	F	L	P	R	A
E	K	Z	R	M	A	Y	N	N	O	I	F
R	Y	R	D	L	N	T	D	E	T	K	B
I	O	B	K	A	R	A	T	M	U	U	S
M	B	E	X	D	V	M	R	M	E	T	V
I	R	E	P	E	E	K	M	R	O	T	S
S	E	F	F	F	U	Z	Q	C	A	W	T



Answer on page 56

WIN!

Signed copies of the *Storm Keeper* series!

We're giving away copies of **both books** to three lucky readers, **signed** by author **Catherine Doyle**. Cool! To be in with a chance of winning, just answer this really simple question…

Q Arranmore is off the coast of which island?

a) Ireland
b) Isle of Man
c) Shetland

Enter on page 55!

Available from all good bookshops and online retailers!
Find out more at bloomsbury.com

ADVERT

An island that never forgets.

A series you'll remember forever.

Paddle over to Arranmore Island and prepare for a magical adventure in Catherine Doyle's exciting new *Storm Keeper* story…

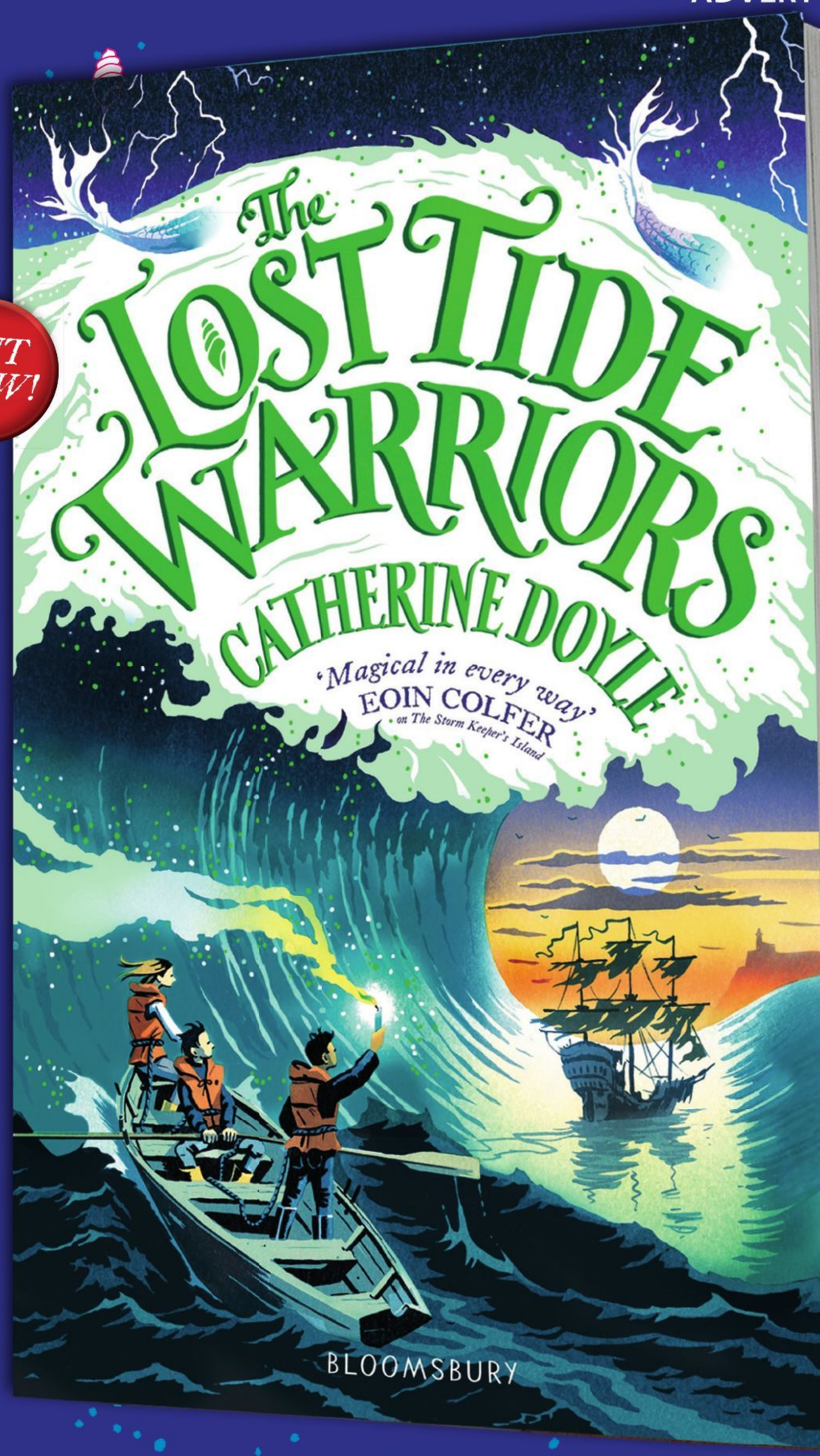
The first book in the gripping ***Storm Keeper*** series sees **Fionn Boyle** travel to **Arranmore Island.** His grandfather, **Malachy**, a secretive and eccentric old man, steps down as **Storm Keeper** of the mysterious isle, and a **sinister magic** awakens, intent on rekindling an **ancient war.**

In the sequel, ***The Lost Tide Warriors***, Fionn has been Arranmore's new Storm Keeper for less than six months when, from out of nowhere, thousands of terrifying **Soulstalkers** arrive on the island. The empty-eyed followers of the dreaded sorceress **Morrigan** have come to raise their leader and Fionn is powerless to stop them. The Storm Keeper's magic has deserted him and with his grandfather's memory waning, Fionn must rely on his friends **Shelby** and **Sam** to help him summon the army of **Merrows** loyal to the good sorcerer **Dagda.**

But nobody else believes that the Merrows – **ferocious sea creatures** – exist. So how can he prove he's right without any magic? As Fionn begins his search for the lost army, the other islanders prepare for invasion.

The **battle to save Arranmore** has begun…

OUT NOW!



Meet the author!

The spellbinding ***Storm Keeper*** series was inspired by author **Catherine Doyle's real-life ancestral home** on **Arranmore Island** and the adventures of her many seafaring ancestors. Her love of reading began with great **Irish myths and legends**, and these fantastic stories helped her write the books!

Awesome Arranmore!

1. In real life, **Arranmore** – or **Árainn Mhór** – is an island off the coast of **County Donegal**, north-western **Ireland.**
2. It has a population of just **469** people.
3. Arranmore's ancient **clifftop fort** dates back to **800 BC**!
4. The island (right) is just **5km wide** and **9km long.**
5. If you dive into the **Atlantic Ocean** off Arranmore's **west coast**, the next stop is **Canada**, **3,100km away**. Good luck swimming that far!

Find Fionn!

Fionn is **hiding** from the evil **Morrigan.** Using this **map** and the **instructions** written below, can you work out which square he's in?

* Head east 5km and north 2km
* Move east 3km and north 1km
* Head west for 2km
* Head north for 1km and then 4km west

Artwork © Bill Bragg, 2019. Lettering by Patrick Knowles.
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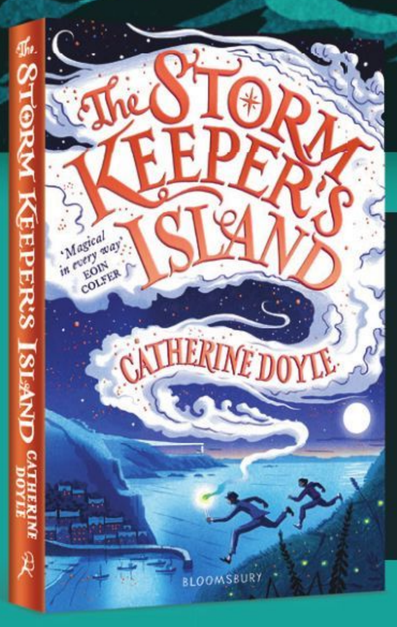
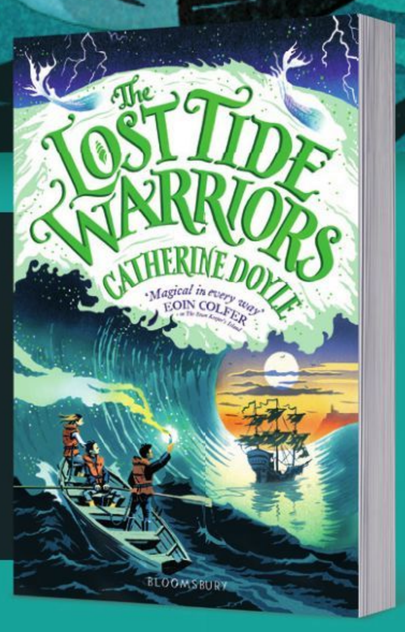
OUT NOW

The Lost Tide Warriors

CATHERINE DOYLE



WIN SIGNED BOOKS



MEET THE AUTHOR